

2013-14 Annual Report

**Environmental
Compliance Division**

PRETREATMENT PROGRAM



ANNUAL REPORT 2014

PRETREATMENT PROGRAM

**Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708-7018
(714) 962-2411**

**POTW PRETREATMENT PROGRAM ANNUAL REPORT
CERTIFICATION STATEMENT**


NPDES Permit Holder: Orange County Sanitation District
Report Due Date: October 31, 2014
Period Covered by this Report: July 2013 through June 2014
Period Covered by Previous Report: July 2012 through June 2013*
Name of Wastewater Treatment Plant(s): Reclamation Plant No. 1, and Treatment Plant No. 2
NPDES Permit Number: CA0110604

Person to contact concerning information contained in this report:

- Name: James Colston
- Title: Environmental Compliance Manager
- Mailing Address: 10844 Ellis Avenue
Fountain Valley, CA 92708-7018
- Telephone: (714) 593-7450

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October 27, 2014
Date


Environmental Compliance Manager

* See Annual Report 2012-13, Orange County Sanitation District, submitted to EPA Region 9 and California Regional Water Quality Control Board, Santa Ana Region.

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EXECUTIVE SUMMARY

E.1 BACKGROUND

Recognizing the need to control the quality and quantity of wastewaters discharged to the sewerage system, OCSD's Boards of Directors adopted in February 1954 the first Ordinance regulating the use of the sewerage system. This Ordinance was subsequently revised and amended in February 1958, April 1970, July 1976, July 1983, September 1989, February 1992, July 1998, July 2008, and October 2009. The 1970 revision formally established OCSD's Industrial Waste Division to issue permits, set flow and quality limits, and monitor and inspect industrial discharges to the sewerage system. Substances monitored and regulated included: oil and grease of mineral and petroleum origin, organic materials, dissolved solids, suspended solids, phenolic compounds, radioactive wastes, combustible materials, and any other contaminants that had the potential to degrade wastewater treatment processes or cause problems in the sewerage facilities. In July 1976, the Ordinance was revised to include heavy metal limits.

In July 1983, the Ordinance was further amended to include enforcement of the EPA's Federal categorical limits and to modify OCSD's local discharge limits for cadmium, copper, polychlorinated biphenyls, pesticides, and total toxic organics. OCSD's pretreatment program was approved by the EPA in January 1984. In September 1989, the Ordinance was revised to streamline administrative and enforcement procedures, incorporate EPA regulations adopted since 1983, clarify the intent of the program through added definitions and procedures, and include special purpose discharge permit requirements and conditions. In February 1992, the Ordinance was amended to revise defined terms, initiate noncompliance sampling fees, and include language giving OCSD authority to levy administrative penalties according to changes to state law enacted in January 1992. In July 1998, revisions were made primarily for the deletion of Class III permits, which were issued for the collection of user charges for the discharge of domestic waste. In July 2008, revisions were made in regards to how tax credits are applied for user charges, and to include dry weather urban runoff permit requirements and conditions. The most recent revision in October 2009 provided clarification regarding transfer of permit ownership. OCSD plans to update its Ordinance during the 2014/15 fiscal year per EPA.

E.2 INTRODUCTION

The fiscal year (FY) 2013/14 OCSD Annual Report provides the following:

- Information about the industrial pretreatment program for the fiscal year (July 1, 2013, through June 30, 2014) as required by OCSD's National Pollutant Discharge Elimination System (NPDES) permit issued by the California Regional Water Quality Control Board, Santa Ana Region (CRWQCB) and the Environmental Protection Agency (EPA); and
- Information on how OCSD's pretreatment program is administered; how well industrial permittees achieve compliance at the source; what effect their discharge has had on OCSD's influent, effluent, and biosolids; what labor, equipment, and capital resources were used for the program during the fiscal year; and to document how well the program is achieving its goals.

E.2.1 Pretreatment Program Summary

Control of Pollutants

Since FY 1976/77, while Orange County experienced tremendous growth, the pretreatment program has been successful in reducing the average daily pounds of metals entering OCSD's system by 85% and metals discharged to the marine environment by 98%. Over this time, individual effluent metals such as cadmium, chromium, and lead have been reduced by over 99%; copper by 98%; nickel by 95%; and zinc by 97%. Long-term trends of effluent heavy metals show a steady decline since FY 1977 (see Figure ES-1).

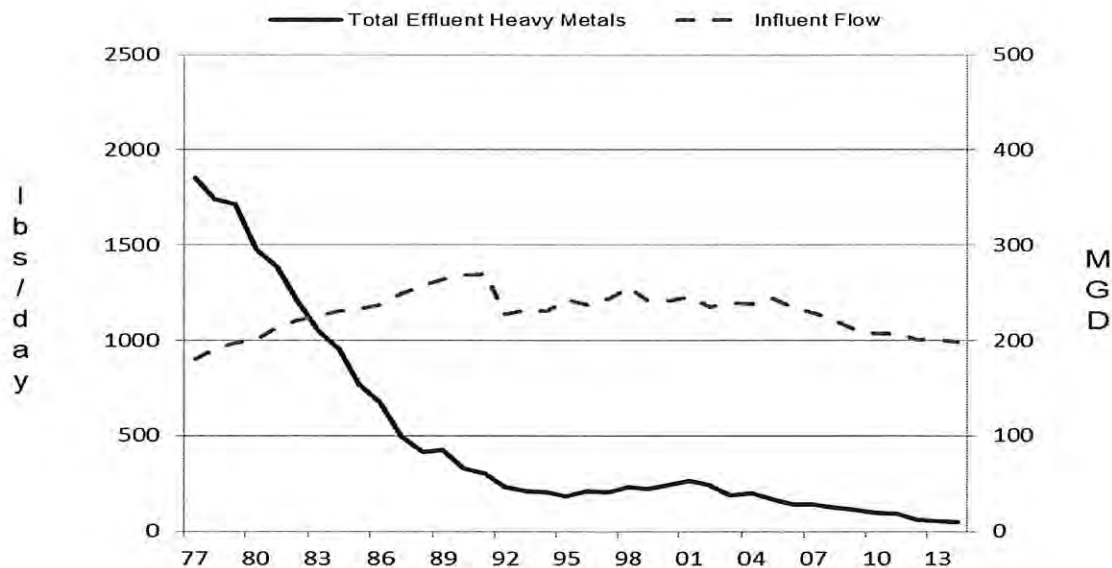


Figure ES-1 Average Effluent Total Heavy Metals and Flows for Past Fiscal Years
Orange County Sanitation District

OCSD's pretreatment program has been effective in reducing the toxic priority pollutants discharged to the sewerage system. It has also been effective in protecting the collection, treatment, and disposal facilities from incidents of pass-through or interference, and it has enabled OCSD to meet its NPDES ocean discharge limits. The quality of OCSD's influent, effluent, and biosolids are testimony to how well the program has progressed. Its future challenges will be to continue improving and meeting the program goals through the promotion of pollution prevention, education, communication, and industrial and regulatory controls. It is the policy of the pretreatment program to have consistent enforcement of OCSD's Wastewater Discharge Regulations (Ordinance).

Permits

At the end of FY 2013/14, OCSD administered 695 active permits, of which 333 were Class I permits, 24 Class II permits, 47 Wastehauler permits, 64 Special Purpose permits, 19 Urban Runoff permits, 185 FOG (Fat, Oil, and Grease) permits, and 23 zero discharge permits. This permit inventory represents a slight decrease from the number of permits (704) administered during the previous fiscal year. Of the 333 Class I users, 189 were subject to Federal Categorical Pretreatment Standards.

Program Costs

The pretreatment program is funded by industrial permit fees, noncompliance sampling fees, and collection of user charges. The pretreatment program operating expenditures for the fiscal year, including laboratory analyses, totaled \$7,283,573. A total revenue of \$18,073,849 in sewer use charge payments and over \$81,000 in noncompliance fees were invoiced through the industrial pretreatment program, both increases from last fiscal year.

Inspection, Sampling, and Enforcement

OCSD performed 1,733 industrial inspections during the fiscal year, with the collection of 3,770 samples resulting in 19,298 laboratory analyses. Over 100 compliance inspections or meetings were held with dischargers in order to identify and assess noncompliance problems, and propose long-term solutions. OCSD conducted four covert downstream sampling projects. Over \$81,000 in noncompliance sampling fees and penalties, and Significant Noncompliance (SNC) reporting and publication fees were invoiced through the pretreatment program. Seventeen (17) companies (5%) of the 333 active permittees listed in the Monitoring and Compliance Status report were determined to be in SNC and their names were published in the newspaper.

Significant Changes in Operating the Pretreatment Program

There were no significant changes in operating the Pretreatment Program.

E.2.2 Pretreatment Program Elements

OCSD administers several different program elements designed to meet the goal of controlling discharges from industrial sources. These have a direct influence on OCSD's ability to meet federal, ocean discharge, biosolids reuse and disposal, and water reclamation requirements.

Public Participation

OCSD published those industries that were in significant non-compliance in the local newspaper.

Wastehauler Program

At this report date, 47 wastehauler companies are under permit with OCSD, which have a total of 100 trucks. During the past fiscal year, 12.9 million gallons of waste were discharged by permitted wastehaulers at the Plant No. 1 Wastehauler Station.

Total Toxics Organics Waiver Program

Permittees who have not shown detectable levels of Total Toxic Organics (TTOs) based on their wastewater discharge analytical data for at least one year are eligible to waive the self-monitoring requirement if they can certify that TTOs are not used or present at their facility. For FY 2013/14 OCSD granted 139 companies TTOs waivers.

Industrial Operations and Maintenance Improvement Program

In 1999/2000, OCSD evaluated the needs of an industrial operations and maintenance program and developed a plan that included outreach and operator training, and enforcement of requirements for operator and operations and maintenance practices. Following EPA's recommendation, OCSD determined that the majority of violations by industries were due to inadequate operation and maintenance practices of their pretreatment facilities. In response, OCSD developed and implemented the industrial operator training courses and industrial pretreatment operations and maintenance guidelines that cover practices and recordkeeping for

industrial operators.

In September 2013, OCSD finalized Advanced Training Course V, issuing a Certification of Completion to 27 wastewater operators who passed both the class requirements and facility audit. In April 2014, OCSD started Comprehensive Training Course 2014, with 44 wastewater operators enrolled from 23 industrial facilities. The course consisted of five classes from May 1 through May 29, 2014, and included a wastewater audit at each operator's facility. The audit reports for Comprehensive Training Course 2014 are scheduled to be completed by October 2014.

Non-Industrial Source Control Program

The purpose of OCSD's Non-Industrial Source Control (NISC) Program is to promote and implement the application of waste management strategies and practices that will reduce or eliminate the generation of waste at the source, thereby reducing the volume and toxicity of waste streams entering OCSD's sewerage system. The NISC Program also addresses non-industrial pollution sources in our light industrial, commercial and residential discharger community, as shown in detail in Chapter 10. Some of the programs included in the NISC Program are shown below.

Constituents of Emerging Concern (CEC) - In January 2008, OCSD and the Orange County Water District commissioned the Ground Water Replenishment System (GWRS), which reclaims up to 70 MGD of treated effluent from OCSD and processes it into drinking water for indirect reuse. Because of the very stringent drinking water quality limits, even low levels of constituents from residential and commercial facilities present challenges to water reclamation. Therefore, as part of the permits for the GWRS, OCSD addresses CECs. Detailed information is presented in Chapter 10.

Dry Cleaners - Initially implemented to prevent oil and groundwater contamination by perchloroethylene (Perc), the Dry Cleaners Program is now revitalized as an important outreach tool in protecting the Orange County Water District's Groundwater Recharge System. OCSD determined that dry cleaning operations that eliminated the use of Perc from their facilities could forego field inspection if they continued to demonstrate zero discharge and returned their annual certification form. As of this report date, 319 dry cleaners completed their certifications. One dry cleaner failed to submit their certification despite repeated attempts by OCSD staff.

Pharmaceuticals - OCSD's NISC Program addresses pharmaceutical disposal concerns in residential, commercial and industrial segments. Studies have indicated the presence of pharmaceuticals in receiving waters downstream of wastewater treatment plants, in drinking water, and in biosolids. OCSD's three-tier program began in 2006 and is targeting residential areas in cooperation with the regional "No Drugs Down the Drain" campaign; industrial pharmaceutical manufacturers by requiring annual reports on what is manufactured and how wastes are managed; and commercial health service facilities by identifying 750 in OCSD's service area for inclusion in future drug disposal programs once EPA issues the final guidance document. More information is provided in Chapter 10.

Radiator Shops - the Radiator Shop Certification Program aims to prevent sewer discharge of heavy metals, oil and grease, and other solvent-containing wastes generated during the draining, cleaning and rebuilding of radiators. If discharged to the sewer, this wastewater has the potential to violate numerous OCSD discharge limits.

The program consists of a biennial certification that the facility does not discharge industrial waste to the sewer. Inspections are conducted to verify information. Radiator shops must achieve zero discharge by using a closed-loop wet process and hauling all non-reusable hazardous waste offsite. All floor drains in wet process areas must be sealed, and wastehauling records must be

kept on-site for review by OCSD field staff. Recycling systems must have no connection to the sewer.

There are currently 22 radiator shops operating within OCSD's service area.

Urban Runoff - For more than fourteen years, OCSD has been collecting and treating urban runoff from 19 diversion systems owned and operated by local agencies within OCSD's service area. During this fiscal year, the average daily flow was 1.18 million gallons per day.

Under the current policy (Resolution No. 13-09), adopted June 28, 2013, the cities or agencies will be allowed to discharge up to a new maximum limit of 10 MGD on the combined total of all urban runoff discharges.

Fats, Oil, and Grease (FOG) - OCSD implemented a FOG Program on January 1, 2005, in response to CRWQCB and EPA Order R8-2004-0062 issued on September 17, 2004. This order required Orange County cities and sewerage agencies to develop a Sewer System Maintenance Plan (SSMP), one element of which was a FOG Program. On November 17, 2004, OCSD's Board of Directors passed Ordinance OCSD-25 authorizing the FOG Program. In May 2006, the State Water Resources Control Board (SWRCB) adopted Order No. 2006-0003 (Statewide WDR), which required a similar effort statewide. In December 2006, the CRWQCB rescinded its WDR order in lieu of the Statewide WDR. During the interval between the regional order and the Statewide WDR due date, OCSD continued to operate their FOG Program in their designated service area, the City of Tustin. OCSD submitted their SSMP to the SWRCB in May 2009, and completed their most recent audit of the document in April 2013.

During this reporting period, OCSD issued 185 FOG permits to various facilities and 594 inspections and enforcement actions were conducted.

E.2.3 Compliance with NPDES Discharge Requirements

There were no plant upsets, interference, or pass-through incidents attributable to industrial users in FY 2013/14.

NPDES REQUIREMENTS - PRETREATMENT

**Pretreatment Requirements – Compliance with National Pollutant
Discharge Elimination System (NPDES) Permit Requirements**

NPDES REQUIREMENTS - PRETREATMENT**1.1 PRETREATMENT REQUIREMENTS - COMPLIANCE WITH NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS**

This section is a summary of the pretreatment program requirements contained in OCSD's NPDES Permit No. CA0110604, Order No. R8-2012-0035, effective July 20, 2012, jointly issued by the CRWQCB and EPA Region IX. The requirements for the industrial pretreatment program are listed in Section VI (C)(4)(c) and Attachment E of the Permit. The requirements are shown below (in bold italics) using the appropriate numeration found in the permit. Each requirement is followed by a summary of the activity that has resulted in OCSD's compliance with the permit requirements, or a reference may be given where additional information can be found in this annual report.

NPDES Section VI. Provisions, C. Special Provisions, 4. Special Provisions for Municipal Facilities (POTWs Only), c. Pretreatment Program Requirements

- (2) The Discharger shall implement and enforce its approved pretreatment program, and all subsequent revisions, which are hereby made enforceable conditions of this Order/Permit. The Discharger shall enforce the requirements promulgated pursuant to Clean Water Act (CWA) Sections 307(b), 307(c), 307(d), and 402(b) with timely, appropriate and effective enforcement actions. The Discharger shall cause all nondomestic users subject to federal categorical standards to achieve compliance no later than the date specified in those requirements, or, in the case of a new nondomestic user, upon commencement of discharge.***

OCSD has an ongoing commitment to meet the provisions of this requirement, and all pretreatment requirements are rigorously enforced as discussed in Chapter 4 of this report. The *Wastewater Discharge Regulations* (Ordinance) contains specific provisions for new dischargers that are more stringent than those required by 40 CFR 403.

The ongoing quarterly inspection, sampling, and monitoring program for each Class I industry (Significant Industrial User) ensures compliance with federal, state, and local regulations. The compliance status of all industries subject to federal categorical standards is shown in the Monitoring and Compliance Status Report, presented in Appendix A of this report.

- (3) The Discharger shall perform the pretreatment functions required by 40 CFR Part 403, including, but not limited to:***

- (a) Implement the necessary legal authorities as required by 40 CFR 403.8(f)(1).***

The legal authorities are contained in OCSD's July 1983 *Regulations for Use of District Sewerage Facilities* (Ordinance) which were approved by EPA in January 1984, and affirmed during the May 1986 audit. Revised *Wastewater Discharge Regulations* ordinances were adopted and became effective September 8, 1989, February 7, 1992, July 1, 1998, July 1, 2008 and October 1, 2009. OCSD is currently updating its Ordinance per EPA audit requirements.

(b) Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6.

The requirements to enforce and implement National Pretreatment Standards for general prohibitions and specific industrial subcategories are contained in OCSD's Ordinance. Chapter 4 of this report describes OCSD's enforcement efforts for FY 2013/14.

(c) Implement the programmatic functions as required by 40 CFR 403.8(f)(2).

The required functions include the identification, quantification, permitting, and enforcement of the standards set forth in OCSD's Ordinance. Chapters 3 and 4 of this report describe the permitting and enforcement efforts for FY 2013/14.

(d) Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3).

The pretreatment program is funded by industrial permit fees, noncompliance sampling fees, and sewer use charges. The pretreatment program's operating expenditures for FY 2013/14, including laboratory analyses, total \$7,283,573. Chapter 6 of this report provides additional details.

(4) By October 31 of each year, the Discharger shall submit an annual pretreatment report to the Regional Water Board, US EPA, the State Water Board's Division of Water Quality-Regulations Unit, and the Orange County Department of Health Services' Hazardous Materials Division, describing its pretreatment activities over the previous fiscal year (July 1 through June 30). In the event the Discharger is not in compliance with any condition or requirement of this Order/Permit, or any pretreatment compliance inspection/audit requirements, the Discharger shall include the reasons for noncompliance and state how and when it will comply with such conditions and requirements. The annual report shall contain, but not be limited to, the following information:

(a) A summary of analytical results from representative, flow-proportioned, 24-hour composite sampling of the Discharger's influent and effluent for those pollutants US EPA has identified under CWA section 307(a) which are known or suspected to be discharged by nondomestic users. Representative grab sampling shall be employed for pollutants that may degrade after collection, or where the use of automatic sampling equipment may otherwise result in unrepresentative sampling; such pollutants include, but are not limited to, cyanide, oil and grease, volatile organic compounds, chlorine, phenol, sulfide, pH, and temperature. Wastewater sampling and analysis shall be performed in accordance with the minimum frequency of analysis required by the MRP (Attachment E). The Discharger shall also provide influent and effluent monitoring data for non-priority pollutants, which the Discharger believes may be causing or contributing to interference or pass through. The Discharger is not required to sample and analyze for asbestos. Sludge sampling and analysis is addressed elsewhere in this Order/Permit. Wastewater sampling and analysis shall be performed in accordance with 40 CFR 136.

The influent, effluent, and biosolids sampling information is provided in Chapters 2, 5, and 9, and Appendix B of this annual report.

(b) A discussion of upset, interference, or pass through, if any, at the Discharger's facilities, which the Discharger knows or suspects were caused by nondomestic users of the POTW system. The discussion shall include the

reasons why the incidents occurred, any corrective actions taken, and, if known, the name and address of the responsible nondomestic user(s). The discussion shall also include a review of the applicable local pollutant limitations to determine whether any additional limitations, or changes to existing limitations, are necessary to prevent pass-through, interference, or noncompliance with sludge disposal requirements.

There were no plant upsets, interference, or pass-through incidents attributable to industrial users in FY 2013/14.

- (c) *An updated list of the Discharger's SIUs including their names and addresses, and a list of deletions, additions and SIU name changes keyed to the previously submitted list. The Discharger shall provide a brief explanation for each change. The list shall identify the SIUs subject to federal categorical standards by specifying which set(s) of standards are applicable to each SIU. The list shall also indicate which SIUs are subject to local limitations.*

Appendix A of this report, the Monitoring and Compliance Status Report, is an updated list of industrial users which identifies which set of categorical standards applies.

- (d) *The Discharger shall characterize the compliance status of each SIU by providing a list or table for the following:*

Name of SIU;

Category, if subject to categorical standards;

Type of wastewater treatment or control processes in place;

Number of samples taken by SIU during the year;

Number of samples and inspections by Discharger during the year;

For an SIU subject to discharge requirements for total toxic organics, whether all required certifications were provided;

A list of pretreatment standards (categorical or local) violated during the year, or any other violations;

SIUs in significant noncompliance (SNC) as defined at 40 CFR 403.8(f)(2)(viii), at any time during the year;

A summary of enforcement actions or any other actions taken against SIUs during the year. Describe the type of action, final compliance date, and the amount of fines and/or penalties collected, if any. Describe any proposed actions for bringing SIUs into compliance.

This annual report contains all of the items listed above. SIU names, categories, number of samples and inspections, violations, and SNC status are shown in Appendices A and G. SIU wastewater treatment is shown in Appendix I, Total Toxic Organic waivers are shown in Chapter 7, and enforcement actions are shown in Chapter 4 and Appendix E.

- (e) A brief description of any programs the Discharger implements to reduce pollutants from nondomestic users not classified as SIUs.**

The activities for OCSD's non-industrial source control and pollution prevention programs are discussed in Chapters 7 and 10.

- (f) A brief description of any significant changes in operating the pretreatment program which differ from the previous year, including, but not limited to, changes in the program's administrative structure, local limits, monitoring program, legal authority, enforcement policy, funding, and staffing levels.**

The description of significant changes to the pretreatment program, if any, are discussed in Chapter 7.

- (g) A summary of the annual pretreatment program budget, including the cost of pretreatment program functions and equipment purchases.**

For FY 2013/14, the operating expenses for the pretreatment program were approximately \$7,283,573. Additional information on pretreatment program costs and purchases are shown in Chapter 6 of this report.

- (h) A summary of activities to involve and inform the public of the pretreatment program, including a copy of the newspaper notice, if any, required by 40 CFR 403.8(f)(2)(vii)[sic].**

A copy of the significant non-compliance notice (SNC) for newspaper publication can be found in Appendix F.

- (i) A description of any changes in sludge disposal methods.**

Biosolids information can be found in Chapter 9 of this report.

- (j) A description of the program to quantify, characterize, regulate, and treat flow from low-flow urban runoff diversion systems and "first flush" industrial storm water diversion systems that are routed to the sanitary sewer collection system.**

Information on OCSD's urban runoff program is shown in Chapter 10 of this report.

- (k) A discussion of any concerns not described elsewhere in the annual report.**

There were no concerns for FY 2013/14.

(6) Nonindustrial Source Control Program and Public Education Program

The Discharger shall continue to develop and implement its nonindustrial source control program and public education program. The purpose of these programs is to eliminate the entrance of nonindustrial toxic pollutants and pesticides into the POTW. The nonindustrial source control program will be supplemented with an updated survey of industrial and nonindustrial contaminant sources. These programs shall be periodically reviewed and addressed in the annual report.

The non-industrial source control program (NISC) information can be found in Chapter 10 of this annual report.

ATTACHMENT E, SECTION VII. Effluent Mass Emission Benchmarks

The following mass emission benchmarks [Table E-5] have been established for the effluent discharge. For each parameter with a mass emission benchmark, the Discharger shall report the annual mass emission, and the effluent concentrations and flows used to calculate the annual mass emission, in the annual pretreatment report and annual receiving water monitoring report (effluent chapter).

The mass emission benchmark information is contained in Chapter 2 of this annual report.

OCSD's FACILITIES AND COMPLIANCE WITH DISCHARGE REQUIREMENTS

Introduction

Existing OCSD Facilities

**Compliance with National Pollutant Discharge Elimination
System (NPDES) Requirements**

Effluent Characteristics

Metals

Mass Emission Benchmarks

OCSD'S FACILITIES AND COMPLIANCE WITH DISCHARGE REQUIREMENTS

2.1 INTRODUCTION

OCSD is responsible for collecting, transporting and treating wastewater, and reusing or disposing of the treated wastewater and the separated solids in accordance with all applicable federal, state and local laws and regulations. The following pages present a summary of the operation of the wastewater treatment and collection facilities, the historical data and the regulatory compliance record for FY 2013/14 (July 1, 2013 through June 30, 2014). OCSD is also enrolled in the statewide Waste Discharge Requirements program for sanitary sewers.

OCSD operates and maintains Reclamation Plant No. 1 and Treatment Plant No. 2, and 580 miles of sewers, and 15 outlying pump stations. The treatment plants and pump stations are supervised, operated and maintained by highly trained professionals with appropriate certifications from the California State Water Resources Control Board for treatment plant operators, and the appropriate voluntary certification from the California Water Environment Association. The average daily flow tributary to OCSD per year since 1994 is shown in Table 2.1.

The treated wastewater is discharged into the Pacific Ocean in strict and consistent compliance with state and federal requirements as set forth in OCSD's NPDES permit, or directed to the Orange County Water District (OCWD) for reclamation. Approximately 83.9 million gallons per day (MGD) of treated wastewater was routed to facilities operated by the OCWD during FY 2013/14, a decrease from 90.5 during FY 2012/13. This decrease was due to shutdowns to start installing the 54-inch pipeline from the new pump station as part of the GWRS expansion project. The Groundwater Replenishment (GWR) System is capable of producing 70 MGD purified recycled water to recharge the Orange County Groundwater Basin and protect it from degradation due to seawater intrusion.

During FY 2013/14, OCSD beneficially recycled 95% of the belt press dewatered biosolids for use as agricultural soil amendments and compost products. Total biosolids production for this fiscal year was approximately 279,362 wet tons, a slight increase from 274,956 wet tons in 2012/13. Solids content averaged 19% for Plant No. 1 and 21% for Plant No. 2. Three management options (land application, composting and landfill) were utilized through three vendor contracts in two states and four counties. A small number of loads (5%) went to the local landfill. OCSD's Biosolids Management Compliance Report describes the solids management program in more detail. Grit and screenings are transported under contract for landfill disposal. Debris and grit removed from the sewers during cleaning is dried at Plant No. 1 and then hauled to a landfill for disposal.

In December 2007, the Board of Directors reaffirmed our commitment to recycling biosolids through the Strategic Plan adoption process. The goal is to develop a sustainable, reliable, and economical program for long-range biosolids management, while providing environmentally sound practices that meet the federal, state, and local regulatory requirements. In November 2012, the Board of Directors adjusted the biosolids recycling level of service to allow more diversity by use of up to 100 wet tons per day to a local Orange County landfill during our peak solids interim period through 2017. OCSD continues to track innovative biosolids management technologies and remains actively aware of various political and regulatory challenges surrounding biosolids management.

OCSD's primary and secondary treatment, digestion, and dewatering facilities were all operated within their respective design capacities for the entire fiscal year.

2.2 EXISTING OCSD FACILITIES

OCSD's operations start with the collection of wastewater from the residential, commercial and industrial customers in 21 cities, 3 special districts, and portions of unincorporated Orange County. The average daily flow tributary to OCSD per year since 1995 is shown in Table 2.1.

| TABLE 2.1 Average Daily Influent and Effluent Flow in Million Gallons Per Day (MGD), Fiscal Years 1995-2014 Orange County Sanitation District, Environmental Compliance Division | | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------------|------------------------|-------------------------|-------------------------|
| Fiscal Year | Influent MGD | Effluent MGD | Fiscal Year | Influent MGD | Effluent MGD |
| 1995 | 243 | 244 ^b | 2005 | 244 | 247 ^b |
| 1996 | 237 | 232 | 2006 | 234 | 235 ^b |
| 1997 | 244 | 242 | 2007 | 229 | 232 ^b |
| 1998 | 255 ^c | 255 | 2008 | 221 ^a | 212 ^d |
| 1999 | 241 | 239 | 2009 | 211 ^a | 167 ^d |
| 2000 | 241 | 236 | 2010 | 207 | 152 ^d |
| 2001 | 246 | 244 | 2011 | 207 | 152 ^d |
| 2002 | 235 | 231 | 2012 | 201 | 139 ^d |
| 2003 | 239 | 235 | 2013 | 200 | 137 |
| 2004 | 238 | 238 | 2014 | 198 | 137 |
| a Decrease due to drought; less infiltration due to drier soils and business recession. b There was more effluent than influent due to in-plant construction dewatering that was discharged downstream of influent metering. c El Niño (wet year). d Increased flow to Groundwater Replenishment System. | | | | | |

2.2.1 Description of Treatment Plants

Based on population served, OCSD is one of the largest wastewater facilities in the United States. The network of interceptor sewers, treatment units and disposal systems is quite complex. The following sections provide an overview of the treatment facilities.

2.2.1.1 Reclamation Plant No. 1

Reclamation Plant No. 1 is located in the city of Fountain Valley adjacent to the Santa Ana River. The metering and diversion structure, constructed in 1974, allows the excess wastewater from any of six trunk sewers tributary to Plant No. 1 to be diverted to Plant No. 2 to not overload the capacity of Plant No. 1 or to provide for maintenance or construction activities. The metering and diversion structure also contains pH meters, conductivity meters and flow meters to monitor the incoming wastewater on each trunk sewer. This operational flexibility also allows Plant No. 1 to provide the highest quality of wastewater for reclamation at OCWD. Flows from the Santa Ana River Interceptor trunkline, which contains Santa Ana Watershed Project Authority brines, are diverted to Plant No. 2.

The wastewater flows through barscreens with 5/8 inch wide openings where large solids (e.g., rags, non-dispersible materials, plastics, grease chunks) are removed. Wastewater is then pumped to aerated grit chambers where the velocity of the water is slowed to allow coffee grounds, seeds, sand, gravel, and other heavy particulate debris to settle out. All the screenings and grit are hauled by a contractor to a landfill for disposal. Foul air at the treatment plants is captured from the trunk sewers at the metering and diversion structure, headworks structures and grit chambers for treatment in the odor control chemical scrubbers. Four duty and one standby main sewage pumps lift flow to the grit chambers.

For improved performance chemically enhanced primary treatment (CEPT) is done. Ferric chloride and anionic polymer are added to the primary clarifiers to enhance the settling of the organic solids. Each primary clarifier is covered to capture foul air for treatment in scrubbers. Plant No. 1 has a primary treatment capacity of 204 MGD.

During FY 2013/14, 100% of the Plant No. 1 primary effluent received secondary (biological) treatment in either conventional air activated sludge secondary treatment process or trickling filters. An average of 83.9 MGD of the secondary treated water was pumped to OCWD's GWRS and the Green Acres Project (GAP) for advanced tertiary treatment. Advanced tertiary treatment prepares the water for injection into the groundwater as a barrier against saltwater intrusion, and for percolation to the aquifer for water reclamation and reuse. OCWD also provides GAP water for industrial uses to OCSD. The balance of the Plant No. 1 secondary effluent flows by gravity to Plant No. 2 where it is blended with treated wastewater from Plant No. 2 prior to pumping and ocean disposal. Plant No. 1 effluent is disinfected with sodium hypochlorite (bleach) prior to discharge into the interplant line on the west bank of the Santa Ana River. The treated wastewater flows via gravity to the Plant No. 2 ocean outfall booster station (OOPS) or to the Effluent Pump Station Annex (EPSA). Mixing with Plant No. 2 treated effluent occurs at this time.

Solids collected in the primary and secondary clarifiers are pumped to anaerobic digesters for organic waste stabilization and pathogen destruction at 98 degrees Fahrenheit (°F). Following digestion, the sludge is dewatered using belt filter presses. The belt press dewatered biosolids are removed by private contractors. Stabilization results in the production of digester gas, a fuel which is approximately 65% methane and 35% carbon dioxide. This fuel has a heating value of about 628 Btu/cu.ft. Secondary sludge is thickened in dissolved air floatation (DAF) units prior to digestion. Digester gas is gathered, compressed, cleaned and distributed to the Central Power Generation System (CGS) at each plant as a renewable fuel for energy generation.

At Plant No. 1, natural gas and digester gas fuel three internal combustion engines that power 2,500 kilowatt (kW) electric generators. Only two of the three engine generators operate at one time to meet air quality permit limits. Supplemental power was purchased from Southern California Edison (SCE) to provide for the remainder of the Plant No. 1 energy demand. The internal combustion engines were fueled primarily with digester gas with a small amount (5%) of purchased natural gas added to aid combustion. Excess digester gas is flared by permit to the atmosphere. The interplant digester gas transmission and storage line was re-commissioned this year and allowed the transfer of gas between plants. This has provided for better pressure regulation and reduction of gas flaring.



MAP NOT TO SCALE

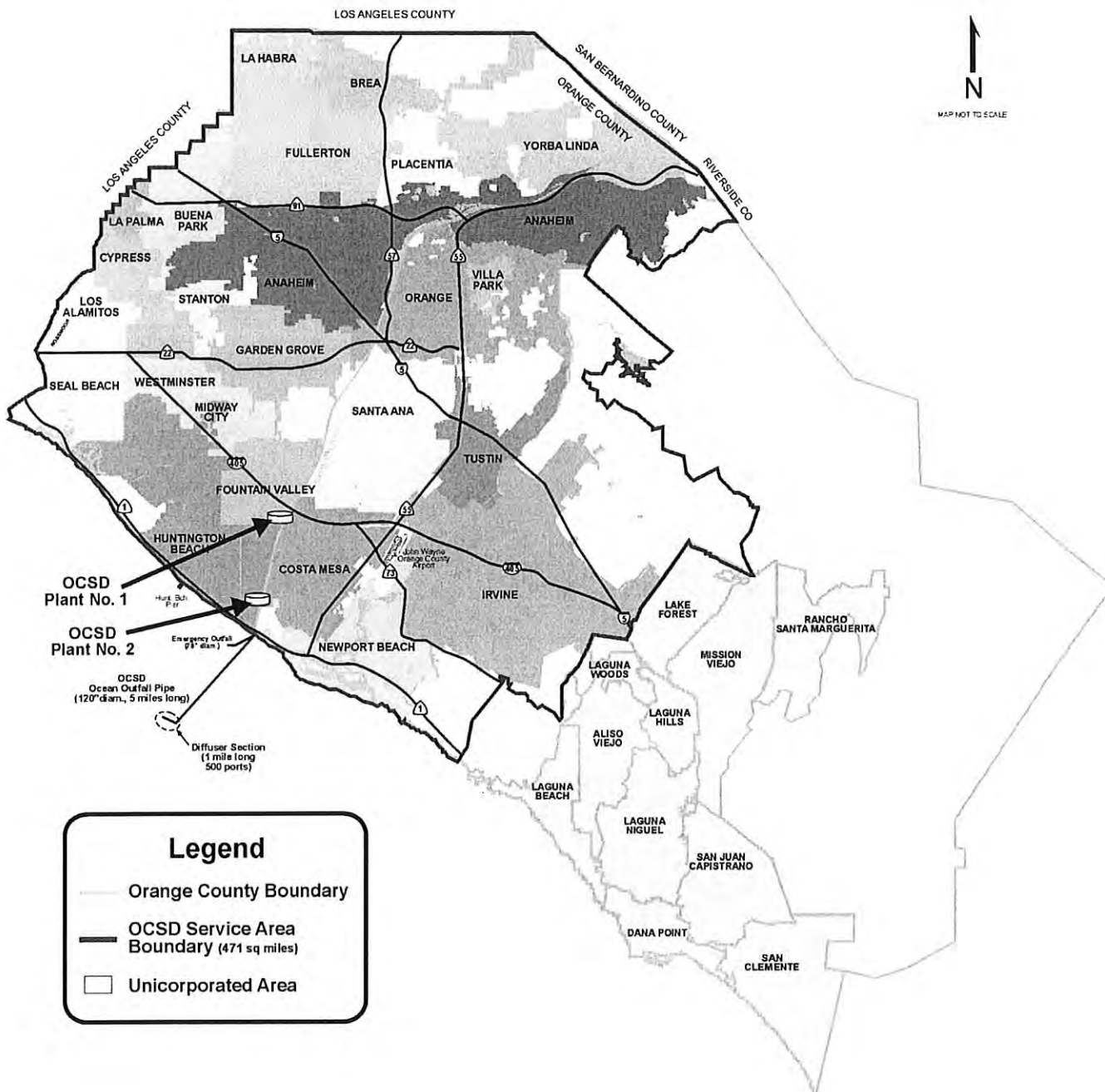


Figure 2-1 Map of Orange County Sanitation District's Service Area
Orange County Sanitation District

2.2.1.2 Treatment Plant No. 2

Treatment Plant No. 2 is located in the city of Huntington Beach near the mouth of the Santa Ana River. Five trunk sewers transport wastewater into Headworks D facility, which contains pH meters, conductivity meters, and flow meters, along with six mechanically cleaned barscreens, seven main sewage pumps and six grit tanks. All screenings and grit are hauled by a private contractor to a landfill for disposal. The foul air from the headworks, grit tanks, and primary sedimentation basins is collected for treatment in a combination of chemical scrubbers and biotowers.

Ferric chloride and anionic polymer are used to enhance the settling of solids during primary treatment. Settleable and suspended solids, and floatable particulates are removed from the wastewater in primary sedimentation basins and pumped to anaerobic digesters for stabilization.

Sludge from the primary and secondary settling basins is treated in anaerobic digesters. Secondary sludge is thickened in DAF units prior to digestion. Following digestion, the sludge is dewatered using belt filter presses. The belt press dewatered biosolids are removed by private contractors.

The Plant No. 2 CGS has five internal combustion engines that power five 3,000 kW electric generators, and a 1,000 kW steam turbine powered by engine exhaust waste heat. Only two engine generators were usually operated at any one time based on digester gas availability. Excess power was sold to SCE during periods of lower plant use and power is imported during high demand periods. The internal combustion engines were fueled primarily with digester gas with a small amount (5%) of natural gas.

2.2.1.3 Joint Works Facilities

Facilities common to both plants are designated as Joint Works Facilities. These include the bypass sewer to divert wastewater from Plant No. 1 to Plant No. 2, effluent lines to convey treated wastewater from Plant No. 1 to Plant No. 2 ocean discharge, a fiber optic cable line for interplant communication, digester gas transmission and storage line, two outfall pumping stations, two ocean outfalls (designated in the NPDES permit as Discharge Serial Nos. 001 and 002), and the emergency gravity overflow flap gate valves into the Santa Ana River (Discharge Serial No. 003).

Treated secondary effluent from Plant Nos. 1 and 2 is pumped to OCSD's main discharge point, the 120-inch diameter, 5-mile long ocean outfall (the last mile of which is a diffuser with 503 ports that provides a minimum of 250:1 dilution). During FY 2013/14 all dry weather influent received secondary treatment. Prior to discharge, the chlorinated final effluent is dechlorinated at the outfall pump station with sodium bisulfite.

2.3 COMPLIANCE WITH NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS

On October 31, 2004, the U.S. Environmental Protection Agency, Region IX and CRWQCB jointly reissued Waste Discharge Requirements (WDR) Order No. R8-2004-0062 and Authorization to Discharge under the National Pollutant Discharge Elimination System (NPDES No. CA0110604). This NPDES permit remained in place until July 2012 when the renewed permit was issued. Order No. R8-2012-0035/NPDES Permit No. CA0110604 became effective on July 20, 2012.

This section provides a summary of limitations contained in OCSD's NPDES permit. Table 2.2 shows NPDES permit discharge requirements and OCSD's annual average influent and final effluent discharge values for this reporting period.

TABLE 2.2 NPDES Permit Discharge Requirements and OCSD's Annual Average Influent and Final Effluent Discharge Values for Fiscal Year 2013-14
Orange County Sanitation District, Environmental Compliance Division

| Constituent | OCSD's Combined Influent Annual Average | NPDES Permit Discharge Requirement | | | Final Effluent Annual Average ¹ | OCSD's Compliance with NPDES Permit Limits |
|-----------------------------------|-----------------------------------------|------------------------------------|---------------|---------------|--------------------------------------------|--------------------------------------------|
| | | 30-Day Average | 7-Day Average | Daily Maximum | | |
| Flow, MGD | 198 | -- | -- | -- | 137 | -- |
| BOD-C, mg/L | 174 | 25 | 40 | -- | 5.1 | Yes |
| BOD-C, lb/day | -- | 57,129 | 91,406 | -- | 5,800 | Yes |
| BOD-C percent removal | -- | <85 ² | -- | -- | 98.0 | Yes |
| Suspended Solids, mg/L | 336 | 30 | 45 | -- | 6.4 | Yes |
| Suspended Solids, lb/day | -- | 68,555 | 102,832 | -- | 7,340 | Yes |
| TSS percent removal | -- | <75 ² | -- | -- | 98.7 | Yes |
| Grease and Oil, mg/L | 50.4 | 25 | 40 | 75 | ND | Yes |
| Grease and Oil, lb/day | -- | 57,129 | 91,406 | 171,387 | ND | Yes |
| Settleable Solids, mL/L | -- | 1.0 | 1.5 | 3.0 | ND | Yes |
| Toxicity, acute Tu _a | -- | -- | -- | Pass/Fail | P | Yes |
| Toxicity, chronic Tu _c | -- | -- | -- | Pass/Fail | P | Yes |
| Turbidity, NTU | -- | 75 | 100 | 225 | 4.3 | Yes |
| pH | 7.9 | 6.0 to 9.0 | 6.0 to 9.0 | 9.0 | 7.9 | Yes |
| Total Chlorine Residual, mg/L | -- | 0.36 ³ | -- | 1.45 | 0.08 ³ | Yes |
| Total Chlorine Residual, lb/day | -- | 823 ³ | -- | 3,313 | 85 ³ | Yes |
| Benzidine, µg/L | ND | 0.01249 | -- | -- | ND | Yes |
| Benzidine, lb/day | -- | 0.0285 | -- | -- | -- | Yes |
| Chlordane, µg/L | ND | 0.00416 | -- | -- | ND | Yes |
| Chlordane, lb/day | -- | 0.0097 | -- | -- | -- | Yes |
| 3, 3-dichlorobenzidine, µg/L | ND | 1.4661 | -- | -- | ND | Yes |
| 3, 3-dichlorobenzidine, lb/day | -- | 3.3992 | -- | -- | -- | Yes |
| Hexachlorobenzene, µg/L | ND | 0.0380 | -- | -- | ND | Yes |
| Hexachlorobenzene, lb/day | -- | 0.0868 | -- | -- | -- | Yes |
| PAHs, µg/L | ND | 1.5928 | -- | -- | ND | Yes |
| PAHs, lb/day | -- | 3.6929 | -- | -- | -- | Yes |
| PCBs, µg/L | ND | 0.0034 | -- | -- | ND | Yes |
| PCBs, lb/day | -- | 0.0078 | -- | -- | -- | Yes |
| TCDD equivalents, µg/L | NR | 0.000000706 | -- | -- | -- | Yes |
| TCDD equivalents, lb/day | -- | 0.000001637 | -- | -- | ND | Yes |
| Toxaphene, µg/L | NR | 0.03801 | -- | -- | -- | Yes |
| Toxaphene, lb/day | -- | 0.0869 | -- | -- | ND | Yes |

Additional influent/effluent data is shown in Appendix B

-- Not determined

¹ Based on the average of the values reported in the monthly Discharge Monitoring Report. For values based on 30-day rolling maximum averages, refer to the Benchmark section of the Source Control and Ocean Monitoring Annual Reports.

² Monthly average minimum

³ 6-month median

ND Non-detectable

NR Not required. NPDES Permit requires monitoring and analysis of TCDD equivalents in effluent only.

2.4 EFFLUENT CHARACTERISTICS

2.4.1 General

The OCSD National Pollutant Discharge Elimination System (NPDES) permit establishes water quality effluent constituent compliance limits for major wastewater parameters and toxic materials.

Compliance with secondary treatment standards governing the OCSD discharge were addressed in a consent decree and final compliance with full secondary treatment was achieved by December 31, 2012. The following sections represent a review of the current and historical compliance status for the major wastewater parameters. OCSD's annual average ocean discharge parameters for the past five fiscal years are shown in Table 2.3.

2.4.2 Suspended Solids

During FY 2013/14, the suspended solids discharge was in complete compliance with our NPDES permit effluent limits. The final effluent monthly average suspended solids concentration of 6.4 mg/L for a monthly average discharge mass emissions rate of 7340 pounds per day (lb/day) during FY 2013/14 is 21% of the allowable 30-day average concentration limit of 30 mg/L, and 11% of the mass emissions limit of 68,555 lb/day. The suspended solids mass emissions discharge has decreased from over 200,000 pounds per year in 1976 to the present level of 99,600 pounds as major plant improvements came online.

| TABLE 2.3 Suspended Solids and BOD Annual Average Daily Influent and Final Effluent for Fiscal Years 2010-2014 Orange County Sanitation District, Environmental Compliance Division | | | | | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------|----------|--------|----------|---------|----------|--------|
| Fiscal Year | SUSPENDED SOLIDS | | | | BOD | | | |
| | Influent | | Effluent | | Influent | | Effluent | |
| | mg/L | lb/day | mg/L | lb/day | mg/L | lb/day | mg/L | lb/day |
| 2009-10 | 309 | 533,500 | 30 | 37,800 | 250 | 432,000 | 36 | 45,500 |
| 2010-11 | 296 | 511,000 | 24 | 30,400 | 250 | 432,000 | 29 | 37,000 |
| 2011-12 | 312 | 523,000 | 8.3 | 9,600 | 260 | 436,000 | 10.9 | 13,000 |
| 2012-13 | 315 | 525,400 | 7.3 | 8,300 | 270 | 450,000 | 13 | 15,000 |
| 2013-14 | 336 | 554,800 | 6.4 | 7,300 | 270 | 446,000 | 9.9 | 11,000 |

2.4.3 Carbonaceous Biochemical Oxygen Demand (BOD)

The Consent Decree requirements were met as of December 31, 2012. With the new permit in place, the secondary treatment effluent limitations changed from total BOD to carbonaceous with a 30-day average discharge limit of 25 mg/L. The discharge was in consistent compliance for FY 2013/14. The final effluent 30-day running average for FY 2013/14 was 5.1 mg/L with a removal rate of 98%.

2.4.4 Oil and Grease

The NPDES 30-day effluent limit for oil and grease is 25 mg/L and 57,129 lbs/day. Oil and grease was non-detectable in the treated effluent during this fiscal year. The past three years' mass discharge represents a considerable decrease from the FY 2010/11 average of 7,289 pounds per day. The oil and grease data for the past five years is summarized in Table 2.4.

TABLE 2.4 Oil and Grease Average Influent and Final Effluent for Fiscal Years 2010-2014
Orange County Sanitation District, Environmental Compliance Division

| Fiscal Year | Plant No. 1 Influent | | Plant No. 2 Influent | | Combined Influent | | Final Effluent | |
|-------------|----------------------|--------|----------------------|--------|-------------------|---------|----------------|--------|
| | mg/L | lb/day | mg/L | lb/day | mg/L | lb/day | mg/L | lb/day |
| 2009-10 | 65.5 | 53,500 | 54.6 | 49,600 | 59.8 | 103,200 | 7.4 | 9,300 |
| 2010-11 | 66.9 | 53,600 | 55.2 | 51,100 | 60.5 | 104,400 | 5.8 | 7,300 |
| 2011-12 | 64.4 | 51,800 | 49.8 | 43,400 | 56.8 | 95,300 | ND | ND |
| 2012-13 | 64.1 | 51,900 | 45.8 | 39,300 | 54.7 | 91,200 | ND | ND |
| 2013-14 | 55.7 | 44,600 | 45.4 | 38,600 | 50.4 | 83,200 | ND | ND |

ND Non-detectable

2.4.5 Settleable Solids

The 30-day average permit limit for settleable solids is 1.0 milliliter per liter (mL/L) with a maximum at any time of 3.0 mL/L. The FY 2013/14 average for settleable solids was non-detectable. A summary of the annual average settleable solids data for the past five years is shown in Table 2.5.

2.4.6 Turbidity

Turbidity is a measurement of the microscopic suspended solids or finely divided silty particles in water discharged to the ocean. The compliance limit for turbidity is 75 nephelometric turbidity units (NTU) based on a 30-day average. The FY 2013/14 average turbidity was 4.3 NTU. A summary of the turbidity data for the past five years is shown in Table 2.5.

TABLE 2.5 Settleable Solids, Turbidity, and pH, Average Final Effluent for Fiscal Years 2010-2014

Orange County Sanitation District, Environmental Compliance Division

| Fiscal Year | Settleable Solids mL/L | Turbidity NTU | pH |
|-------------|---------------------------|------------------|-----|
| 2009-10 | 0.3 | 29 | 7.8 |
| 2010-11 | 0.3 | 22 | 7.8 |
| 2011-12 | ND | 4.0 | 7.8 |
| 2012-13 | ND | 5.1 | 7.9 |
| 2013-14 | ND | 4.3 | 7.9 |

2.4.7 pH

According to OCSD's NPDES permit, the pH of the ocean discharge shall neither exceed 9.0 nor be less than 6.0. The effluent was in compliance throughout FY 2013/14. The annual mean pH was 7.9, well within the high and low pH effluent limits. The ocean discharge pH has remained relatively constant over the past five years, as summarized in Table 2.5.

2.4.8 Toxicity

OCSD's NPDES permit (Order No. R8-2012-0035) requires that the final effluent be tested once a month for chronic toxicity, and quarterly for acute toxicity. Results of acute and chronic toxicity tests are reported as either a "Pass" or "Fail" following the Test of Significant Toxicity hypothesis testing approach described in the *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010). Prior to the NPDES permit (Order No. R8-2012-0035) issued in 2012, results of acute toxicity tests were reported in acute toxicity units (TUa), which is an expression of the effluent concentration that would cause mortality in half of the organisms tested. Chronic toxicity test results were reported in chronic toxicity units (TUc), which is an expression of the highest effluent concentration to which the organisms were exposed, without observable adverse effects.

Every calendar year the effluent must be tested using each of the species listed in the NPDES permit to determine which species are most sensitive to the effluent. The most sensitive test species are then used as the test organisms for monthly and quarterly testing. In September 2013, acute toxicity tests were performed to determine the more sensitive of two acute test species: the topsmelt fish, *Atherinops affinis* and mysid crustacean, *Americamysis bahia*. The tests demonstrated that the topsmelt was the more sensitive species for the acute test.

In November 2013 chronic toxicity tests were performed to determine the most sensitive of three chronic test species: the giant kelp, *Macrocystis pyrifera*, the purple sea urchin, *Strongylocentrotus purpuratus*, and the topsmelt. The tests demonstrated that the purple sea urchin was the more sensitive species for the chronic test. Consequently, FY 2013/14 monthly chronic and quarterly acute testing was conducted with the purple sea urchin and the topsmelt, respectively.

Table 2.6 summarizes the toxicity testing results for fiscal years 2009/10 through 2013/14. All FY 2013/14 acute (n=4 tests) and chronic (n=12) toxicity tests passed indicating no final effluent toxicity.

| Table 2.6 Final Effluent Yearly Average Toxicity Results for Fiscal Years 2010-2014 Orange County Sanitation District, Environmental Compliance Division | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------|
| Fiscal Year | | Toxicity |
| 2009/2010 | Acute ⁽¹⁾ (<i>A. affinis</i>) | 1.40 TUa |
| | Chronic (<i>S. purpuratus</i>) | 63.0 TUc |
| 2010/2011 | Acute ⁽¹⁾ (<i>A. affinis</i>) | 0.50 TUa |
| | Chronic (<i>S. purpuratus</i>) | 63.0 TUc |
| 2011/2012 | Acute ⁽¹⁾ (<i>A. affinis</i>) | 1.33 TUa |
| | Chronic (<i>S. purpuratus</i>) | 59.3 TUc |
| 2012/2013 ⁽²⁾ | Acute (<i>A. affinis</i>) | Pass |
| | Chronic (<i>S. purpuratus</i>) | Pass |
| 2013/2014 ⁽²⁾ | Acute (<i>A. affinis</i>) | Pass |
| | Chronic (<i>S. purpuratus</i>) | Pass |
| ⁽¹⁾ Acute test TUa values of <1.43 were converted to a zero in order to calculate the yearly average. OCSD's NPDES permit daily maximum toxicity limits are 5.7 TUa and 181 TUc. ⁽²⁾ Results reported as "Pass" or "Fail" using the Test of Significant Toxicity analysis. | | |
| | | RMG |

2.4.9 Outfall Disinfection

The disinfection program was initiated in 2002 and uses sodium hypochlorite (bleach) for disinfection and sodium bisulfite for dechlorination. The goal of the disinfection program is to comply with the California Ocean Plan bacteria requirements at the ocean outfall discharge, which require that total coliform levels not exceed 1,000 most probable number (MPN)/100 milliliter (mL) (30-day mean). OCSD's outfall diffuser provides a 250 to 1 dilution of seawater and treated effluent. Based on the dilution rate, the goal is to reduce the effluent total coliform bacteria from the approximate influent concentration of 25,000,000 MPN/100 mL to less than 250,000 MPN/100 mL. In FY 2013/14, the 30-day running-geometric mean was maintained below the operating goal of 250,000 MPN/100 mL, accounting for a 99.8% decrease from the pre-disinfection level.

The disinfection-bleach usage in FY 2013/14 was approximately 536,000 gallons. This is 46% less than the 1,000,000 per year used in FY 2012/13. Bleach usage significantly decreased due to OCSD achieving full secondary treatment with the start-up of the new Plant No. 2 trickling filters solids contact (TFSC) facility on May 19, 2011.

2.5 METALS

The concentrations of seven metals (cadmium, chromium, copper, lead, nickel, silver, and zinc) are monitored monthly by OCSD. The results of these analyses are used to evaluate efficiencies, trend inputs from discrete sources, and potential toxic concentrations in the secondary facilities, anaerobic digesters, and dewatered sludges.

The average metal concentrations in OCSD's influent and effluent for the last five years are shown in Table 2.7. Since last fiscal year, there has been a decrease in both the total influent metals loadings and total effluent metals mass emissions. Chapter 5 presents additional information on individual heavy metals reductions, and the industrial sources of non-compatible pollutants.

TABLE 2.7 Average Metal Concentrations and Mass in the Influent and Effluent for Fiscal Years 2010-2014
Orange County Sanitation District, Environmental Compliance Division

| Constituent | INFLUENT | | | | | EFFLUENT | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------|----------------|----------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|------------------|------------------|
| | 09-10 | 10-11 | 11-12 | 12-13 | 13-14 | 09-10 | 10-11 | 11-12 | 12-13 | 13-14 |
| Cadmium mg/L lb/day | 0.00014 0.2 | 0.00023 0.4 | 0.00021 0.4 | 0.00030 0.5 | 0.00075 1 | <0.00007 <0.1 | <0.00007 <0.1 | <0.00007 <0.1 | <0.00007 <0.1 | <0.00007 <0.1 |
| Chromium mg/L lb/day | 0.0074 13 | 0.0081 14 | 0.0075 13 | 0.0077 13 | 0.0071 12 | 0.00158 2 | 0.0014 2 | 0.00081 0.9 | 0.00080 0.9 | 0.00098 1 |
| Copper mg/L lb/day | 0.1051 181 | 0.1041 180 | 0.0987 166 | 0.1006 168 | 0.1089 180 | 0.0222 28 | 0.0190 24 | 0.0108 13 | 0.0095 11 | 0.0085 10 |
| Lead mg/L lb/day | 0.00345 6 | 0.00273 5 | 0.00282 5 | 0.00350 6 | 0.00279 5 | <0.00043 0.4 | 0.00086 1 | <0.00043 0.5 | <0.00043 0.0 | <0.00043 0.0 |
| Nickel mg/L lb/day | 0.0133 23 | 0.0151 26 | 0.0127 21 | 0.0156 26 | 0.0143 23 | 0.0134 17 | 0.0140 18 | 0.0123 14 | 0.0126 14 | 0.0114 13 |
| Silver mg/L lb/day | 0.00229 4 | 0.00221 4 | 0.00211 3 | 0.00149 2 | 0.00154 2 | 0.00026 0.3 | 0.00018 0.2 | 0.00008 0.1 | 0.00005 0.1 | 0.00004 0.0 |
| Zinc mg/L lb/day | 0.1580 273 | 0.1493 258 | 0.1491 250 | 0.1772 296 | 0.1687 279 | 0.0374 47 | 0.0390 49 | 0.0260 30 | 0.0271 31 | 0.0212 24 |
| Total Average lb/day | 500 | 486 | 458 | 511 | 502 | 95 | 95 | 59 | 57 | 48 |
| 2009-10 Influent mass based on 207 MGD 2010-11 Influent mass based on 207 MGD 2011-12 Influent mass based on 201 MGD 2012-13 Influent mass based on 200 MGD 2013-14 Influent mass based on 198 MGD | | | | | | 2009-10 Effluent mass based on 151 MGD 2010-11 Effluent mass based on 152 MGD 2011-12 Effluent mass based on 139 MGD 2012-13 Effluent mass based on 137 MGD 2013-14 Effluent mass based on 137 MGD | | | | |

2.6 MASS EMISSION BENCHMARKS

OCSD's National Pollutant Elimination Discharge System (NPDES) permit (Order R8-2012-0035, NPDES Permit No. CA0110604, in effect during this July 1, 2013 through June 30, 2014 reporting period) contains Mass Emission Benchmarks for 72 constituents as identified in Section VII. Effluent Mass Emission Benchmarks, Table E-5 on pg. E-31 of Attachment E - Monitoring and Reporting Program. These mass emission benchmarks are not water-quality based effluent limits; however, OCSD will use this information as part of its annual evaluation of local limits.

The mass emission benchmarks report is required to compare each constituent's sample result with the minimum level (ML) for that constituent contained in the permit. According to the permit requirement, sample results that are less than the reported ML but greater than the method detection limit (MDL) are to be reported as zero prior to calculating the 12-month constituent average. Some of the values in the Mass Emission Benchmarks report differ from those found in the Priority Pollutants report since the former relies on the ML as the threshold of detection while the latter uses the MDL as the threshold for reporting.

Most of the heavy metal results fell in the range of 0.1% to 18% of their respective benchmarks with the exception of selenium which was 90%. Unlike many of the benchmarked organic constituents, OCSD had extensive historic heavy metals sampling frequencies and detectable levels on which to base its benchmarks. As a result, the heavy metal data has less statistical variance from the established benchmarks. With continuing improvements in the pretreatment program, the heavy metals benchmark results verify the decreasing mass emission trends since constituents are less than their historic values.

Heavy metals are covered under existing local pretreatment limits. The local limits for those constituents will be evaluated during the next annual local limits review.

Most of the organic compounds with benchmarks were rarely detected in the effluent. As a result, 68 organic and metal constituents reached only a small fraction (<10%) of their respective benchmarks. More than half of the 72 constituents were not detected in OCSD's effluent, and are listed as zero (0) metric tons/year emitted and zero (0) percent of the benchmark. Historically, these constituents were rarely detected in OCSD's effluent, so the benchmarks could only be based on the method detection limits (MDL). As OCSD continues to increase the sensitivity of its detection limits, some constituents may be discernible in the future. As detection limits are lowered, there will likely be fewer zero-tons-emitted constituents in OCSD's list of benchmarks.

TABLE 2.8 Mass Emissions for All Benchmark Constituents – Fiscal Year 2013-14
Orange County Sanitation District, Environmental Compliance Division

| Constituent | 2013-14 12-Mo. Avg Benchmark | 2013-14 12-Mo. Avg Actual | 2013-14 Percent Benchmark | Min. Mass Tons/Year | Max. Mass Tons/Year | Sample Freq. Count | Freq. Detected Count | Avg. Flow MGD |
|-----------------------------|------------------------------------|---------------------------------|---------------------------------|------------------------|------------------------|-----------------------|----------------------------|------------------|
| 1,1,1-trichloroethane | 7.13 | 0 | 0 | 0 | 0 | 12 | 0 | 140.95 |
| 1,1,2,2-tetrachloroethane | 1.92 | 0 | 0 | 0 | 0 | 12 | 0 | 140.95 |
| 1,1,2-trichloroethane | 1.92 | 0 | 0 | 0 | 0 | 12 | 0 | 140.95 |
| 1,1-dichloroethylene | 1.92 | 0 | 0 | 0 | 0 | 12 | 0 | 140.95 |
| 1,2-dichloroethane | 1.92 | 0 | 0 | 0 | 0 | 12 | 0 | 140.95 |
| 1,2-diphenylhydrazine | 15.40 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| 1,3-dichloropropene | 1.92 | 0 | 0 | 0 | 0 | 12 | 0 | 140.95 |
| 1,4-Dichlorobenzene | 7.68 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| 2,4,6-Trichlorophenol | 7.68 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| 2,4-Dinitrophenol | 76.81 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| 2,4-Dinitrotoluene | 7.68 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| 3,3'-Dichlorobenzidine | 4.9890 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| 4,6-Dinitro-2-methylphenol | 76.81 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| Acrolein | 24.96 | 0 | 0 | 0 | 0 | 12 | 0 | 140.95 |
| Acrylonitrile | 18.06 | 0 | 0 | 0 | 0 | 12 | 0 | 140.95 |
| Aldrin | 0.08 | 0 | 0 | 0 | 0 | 2 | 0 | 135.55 |
| Antimony | 19.20 | 0.1820 | 0.95 | 0.079677 | 0.273651 | 18 | 18 | 141.21 |
| Arsenic | 1.92 | 0.6690 | 34.84 | 0.374484 | 0.927099 | 18 | 18 | 141.21 |
| Benzene | 3.23 | 0 | 0 | 0 | 0 | 12 | 0 | 140.95 |
| Benzidine | 76.81 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| Beryllium | 1.92 | 0 | 0 | 0 | 0 | 18 | 0 | 141.21 |
| bis(2-Chloroethoxy)methane | 15.40 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| bis(2-Chloroethyl)ether | 15.40 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| bis(2-Chloroisopropyl)ether | 15.40 | 0 | 0 | 0 | 0 | 1 | 0 | 138.77 |
| bis(2-Ethylhexyl)phthalate | 36.67 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| Cadmium | 0.55 | 0.0010 | 0.18 | 0 | 0.016497 | 18 | 1 | 141.21 |
| Carbon tetrachloride | 1.92 | 0 | 0 | 0 | 0 | 12 | 0 | 140.95 |
| Chlordane total | 0.76 | 0 | 0 | 0 | 0 | 2 | 0 | 135.55 |

TABLE 2.8 Mass Emissions for All Benchmark Constituents – Fiscal Year 2013-14
Orange County Sanitation District, Environmental Compliance Division

| Constituent | 2013-14 12-Mo. Avg Benchmark | 2013-14 12-Mo. Avg Actual | 2013-14 Percent of Benchmark | Min. Mass Tons/Year | Max. Mass Tons/Year | Sample Freq. Count | Freq. Detected Count | Avg. Flow MGD |
|---------------------------|------------------------------------|---------------------------------|------------------------------------|------------------------|------------------------|-----------------------|----------------------------|------------------|
| | | | | | | | | |
| Chlorobenzene | 1.91 | 0 | 0 | 0 | 0 | 12 | 0 | 140.95 |
| Chloroform | 2.74 | 0.6480 | 23.65 | 0.379331 | 1.041123 | 12 | 12 | 140.95 |
| Chromium | 2.94 | 0.1980 | 6.73 | 0 | 0.672229 | 18 | 17 | 141.21 |
| Copper | 31.52 | 1.5770 | 5.00 | 0.873796 | 2.098933 | 18 | 18 | 141.21 |
| Cyanide | 7.75 | 0.5820 | 7.51 | 0 | 0.926594 | 12 | 11 | 141.52 |
| DDT | 0.26 | 0 | 0 | 0 | 0 | 3 | 0 | 135.55 |
| Dichlorobenzenes | 15.40 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| Dichloromethane | 19.20 | 0.0790 | 0.41 | 0 | 0.554243 | 12 | 4 | 140.95 |
| Dieldrin | 0.08 | 0 | 0 | 0 | 0 | 2 | 0 | 135.55 |
| Diethylphthalate | 13.65 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| Dimethylphthalate | 7.68 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| Di-n-butylphthalate | 15.39 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| Endosulfan | 0.23 | 0 | 0 | 0 | 0 | 2 | 0 | 135.55 |
| Endrin | 0.04 | 0 | 0 | 0 | 0 | 2 | 0 | 135.55 |
| Ethylbenzene | 1.92 | 0 | 0 | 0 | 0 | 12 | 0 | 140.95 |
| Fluoranthene | 7.68 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| Halomethanes | 13.44 | 0 | 0 | 0 | 0 | 12 | 0 | 140.95 |
| HCH | 0.30 | 0.0020 | 0.67 | 0 | 0.003441 | 2 | 1 | 135.55 |
| Heptachlor | 0.08 | 0 | 0 | 0 | 0 | 2 | 0 | 135.55 |
| Hexachlorobenzene | 7.68 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| Hexachlorobutadiene | 15.40 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| Hexachlorocyclopentadiene | 15.40 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| Hexachloroethane | 7.68 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| Isophorone | 7.68 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| Lead | 1.29 | 0 | 0 | 0 | 0 | 18 | 0 | 141.21 |
| Mercury | 0.08 | 0.0010 | 1.25 | 0.000607 | 0.001145 | 12 | 12 | 141.48 |
| Nickel | 10.55 | 1.8910 | 17.92 | 0.274956 | 2.731431 | 18 | 18 | 141.21 |
| Nitrobenzene | 7.68 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |

TABLE 2.8 Mass Emissions for All Benchmark Constituents – Fiscal Year 2013-14

Orange County Sanitation District, Environmental Compliance Division

| Constituent | 2013-14 12-Mo. Avg Benchmark | 2013-14 12-Mo. Avg Actual | 2013-14 Percent of Benchmark | Min. Mass Tons/Year | Max. Mass Tons/Year | Sample Freq. Count | Freq. Detected Count | Avg. Flow MGD |
|-------------------------------|------------------------------------|---------------------------------|------------------------------------|------------------------|------------------------|-----------------------|----------------------------|------------------|
| n-Nitrosodimethylamine | 4.61 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| n-Nitrosodiphenylamine | 7.68 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| PAHs | 99.8540 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| PCB | 13.44 | 0 | 0 | 0 | 0 | 2 | 0 | 135.55 |
| Selenium | 1.92 | 1.73 | 90.10 | 0.966754 | 2.361306 | 18 | 18 | 141.21 |
| Silver | 2.67 | 0.0050 | 0.19 | 0 | 0.043993 | 18 | 6 | 141.21 |
| TCDD Equivalents | 19.21 | 0.0190 | 0.10 | 0 | 0.074687 | 4 | 1 | 131.48 |
| Tetrachloroethylene | 1.92 | 0.0090 | 0.47 | 0 | 0.110849 | 12 | 1 | 140.95 |
| Thallium | 3.84 | 0.0070 | 0.18 | 0 | 0.037932 | 18 | 6 | 141.21 |
| Toluene | 3.98 | 0.01 | 0.25 | 0 | 0.043344 | 12 | 5 | 140.95 |
| Total Chlorinated Phenols | 27.60 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| Total Non-Chlorinated Phenols | 218 | 0 | 0 | 0 | 0 | 12 | 0 | 140.58 |
| Toxaphene | 1.92 | 0 | 0 | 0 | 0 | 2 | 0 | 135.55 |
| Trichloroethylene | 1.92 | 0 | 0 | 0 | 0 | 12 | 0 | 140.95 |
| vinyl chloride | 3.84 | 0 | 0 | 0 | 0 | 12 | 0 | 140.95 |
| Zinc | 40.70 | 3.5260 | 8.66 | 1.476689 | 4.952152 | 18 | 18 | 141.21 |

PERMITS

Introduction

Permit Classifications

Permit Issuance

Discharge Limits

Establishing Mass Emission Rates (MER)

PERMITS**3.1 INTRODUCTION**

The Orange County Sanitation District (OCSD) Industrial Wastewater Discharge Permit System was implemented to establish control mechanisms which contain effluent limits for all standards; statements of duration and non-transferability; self-monitoring, sampling, reporting, record-keeping and notification requirements; and statements of applicable civil and criminal penalties for discharge violations. The following sections describe the different classifications of permits, how new permittees are identified, and how discharge limits are established.

3.2 PERMIT CLASSIFICATIONS

There are seven permit classifications for users that discharge to OCSD's sewerage system: Class I, Class II, Wastehaulers, Special Purpose, Urban Runoff, FOG (Fats, Oils, and Grease), and Zero Discharge.

Class I Permits

Class I dischargers are defined as Significant Industrial Users (SIUs) in accordance with federal regulations. These users include plating shops, printed circuit board shops, large food processors and textile companies with high-volume flows, and industries capable of discharging non-compatible pollutants. A listing of the Class I permittees is given in Appendix A.

A Class I Permit is issued to any user who meets any one of the following conditions:

1. Is subject to federal Categorical Pretreatment Standards; or
2. Averages 25,000 gallons per day or more of regulated process wastewater; or
3. Is determined by the General Manager to have a reasonable potential for adversely affecting OCSD's operation or for violating any pretreatment standard, local limit, or discharge requirement; or
4. May cause, as determined by the General Manager, pass through or interference with OCSD's sewerage facilities.

Class II Permits

Class II permittees include commercial enterprises such as restaurants, supermarkets, and coin-operated laundries.

A Class II Permit is issued to any user who meets all of the following conditions:

1. Has a charge for use greater than the ad valorem tax basic levy allocated to OCSD; and
2. Discharges waste other than sanitary; and
3. Is not otherwise required to obtain a Class I permit.

Wastehauler Permits

Wastehauler permits are issued to those users who are engaged in vehicular transport and subsequent disposal of biodegradable waste into OCSD's system. Wastehauler permittees dispose of septic tank/cesspool, restaurant grease trap and portable toilet wastes at OCSD's dedicated disposal facility located at Reclamation Plant No. 1 in Fountain Valley. The discharge of industrial wastewater by any wastehauler is prohibited unless written permission of OCSD's General Manager has been obtained.

Special Purpose Permits

Special Purpose permits are issued to dischargers for the purpose of discharging groundwater, surface run-off, subsurface drainage, or unpolluted water directly or indirectly to OCSD's facilities, on a temporary basis, when no alternative method of disposal is reasonably available, or to mitigate an environmental risk or health hazard. This presently includes groundwater remediation projects.

Urban Runoff Permits

Urban Runoff is contaminated water that is the result of daily activities such as over-irrigating landscape, cleaning streets and sidewalks, and washing cars. OCSD enforces wastewater discharge limits by issuing permits to urban runoff dischargers to ensure that the quality of wastewater does not compromise OCSD's facilities.

FOG (Fats, Oil, and Grease) Permits

OCSD is administering the local FOG Program for Food Service Establishments (FSEs) that discharge to sewer lines in the City of Tustin area which are maintained by OCSD. Ordinance OCSD-25 provides for establishment of the FOG program and enforcement of program requirements by OCSD's FOG Program Manager and General Manager. The goal of the program is to eliminate Sanitary Sewer Overflows (SSOs) which emanate from FSEs. Additional information can be found in Chapter 10.

Zero Discharge Permits

Zero discharge permits are issued through a Certification of Zero Discharge for those industries that have operations subject to a federal category regulated by the EPA, but do not discharge industrial wastewater generated from these operations to the sewer. A zero discharge permit may also be issued to non-categorical (CSDOC) industries that generate wastewater containing pollutants of concern and have the potential for violating any pretreatment standard or requirement.

3.3 PERMIT ISSUANCE

At the end of FY 2013/14, the pretreatment program managed a total of 695 active permits as shown in Table 3.1. Sixty-seven (67) companies were listed as out of business during the fiscal year (most due to ownership/location/class change and reissued): 23 Class I permits, 3 Class II permits, 2 wastehauler permits, 24 special purpose discharge permits, and 15 FOG permits. Fifty-five (55) new permits were issued: 18 Class I permits, no Class 2 permits, 10 wastehauler permits, 15 special purpose discharge permits, and 12 FOG permits.

TABLE 3.1 Number of Active Permits at End of Fiscal Years 2010-14
Orange County Sanitation District, Environmental Compliance Division

| Fiscal Year | Class I | Class II | Wastehauler | Special Purpose | Urban Runoff | FOG | Zero Discharge* | Total |
|-------------|---------|----------|-------------|-----------------|--------------|-----|-----------------|-------|
| 2009-10 | 332 | 46 | 43 | 92 | 18 | 183 | | 714 |
| 2010-11 | 321 | 50 | 46 | 92 | 19 | 176 | | 704 |
| 2011-12 | 316 | 43 | 43 | 87 | 19 | 184 | | 692 |
| 2012-13 | 338 | 27 | 39 | 73 | 19 | 186 | 22 | 704 |
| 2013-14 | 333 | 24 | 47 | 64 | 19 | 185 | 23 | 695 |

* Previously not reported.

This level of permit activity represents a slight decrease compared to the total number of active permits at the end of the previous fiscal year. Of the 333 Class I permits (significant industrial users), 189 were subject to Federal Categorical Pretreatment Standards. An additional 144 industrial permits (not categorical) were issued to users that discharge 25,000 gallons per day or more of process water, or have a reasonable potential for adversely affecting OCSD's plant operations or for violating any pretreatment standard or requirement.

TABLE 3.2 Number of Permits Subject to Federal Categorical Pretreatment Standards During July 1, 2013-June 30, 2014
Orange County Sanitation District, Environmental Compliance Division

| Category | 40 CFR Reference | Count |
|----------------------------------------------|------------------|-------|
| Aluminum Forming Part C | 467 | 2 |
| Aluminum Forming Part D | 467 | 8 |
| Aluminum Forming + Nonferrous Metals Forming | 467 + 471 | 2 |
| Centralized Waste Treatment-A,B,C | 437 | 2 |
| Coil Coating | 465 | 2 |
| Electrical & Electronic | 469 | 8 |
| Electroplating <10K | 413 | 0 |
| Electroplating >10K | 413 | 5 |
| Metal Finishing PSES | 433.15 | 1 |
| Metal Finishing PSES + Aluminum Forming | 433.15 + 467 | 1 |

TABLE 3.2 Number of Permits Subject to Federal Categorical Pretreatment Standards During July 1, 2013-June 30, 2014
Orange County Sanitation District, Environmental Compliance Division

| Category | 40 CFR Reference | Count |
|---------------------------------|------------------|-------------|
| Metal Finishing PSNS | 433.17 | 150 |
| Metal Molding & Casting | 464 | 1 |
| Nonferrous Metals Forming | 471 | 1 |
| Nonferrous Metals Manufacturing | 421 | 1 |
| Pharmaceutical - Part D | 439 | 9 |
| Pulp-Paper-Paperboard | 430 | 1 |
| Rubber Manufacturing | 428 | 3 |
| Soap-Detergent Manufacturing | 417 | 7 |
| | Total | 204* |

* Represents permittee count for entire fiscal year.

3.3.1 Identification of New Permittees

Each year, OCSD checks various sources for companies that may be subject to Federal Categorical Standards or local limits. Wastewater permits are issued to those businesses as required. OCSD obtains new business information from the following:

- City Business Licensing Departments
- Santa Ana Regional Water Quality Control Board's permit database
- OCSD Engineering Department connection permits
- OCSD Finance Department new sewer service referrals
- Industry, trade or association magazines
- OC Register newspaper
- Agency referrals during Strike Force meetings
- Currently permitted industries

The majority of new companies are identified by OCSD field inspectors while out inspecting current permittees and when following up on new companies moving into a previous out-of-business company address.

3.4 DISCHARGE LIMITS

3.4.1 Industrial

In 1976, OCSD established discharge limits for specific pollutants. These limits became increasingly restrictive over a three-phased implementation period designed to give industry adequate time to comply with the more stringent standards. All of the limiting values were adopted by OCSD's Boards of Directors in 1976 and were published in OCSD's *Regulations for Use of District Sewerage Facilities* (Ordinance). New concentration limits were adopted in the revised Ordinance, which became effective July 1, 1983.

On September 8, 1989, the Boards of Directors adopted a new ordinance entitled *Wastewater Discharge Regulations* which contained essentially the same concentration limits as the previous Ordinance. Revisions consisted of creating a specific limit of 0.1 milligrams per liter (mg/L) for polychlorinated biphenyls (PCB), a limit of 0.1 mg/L for pesticides, and creating specific limits for wastehaulers. It also included specific discharge limits for biochemical oxygen demand (BOD); the daily maximum BOD limit is 15,000 pounds per day (lb/day). These BOD limits were established to prevent pass-through and interference.

The 1989 Ordinance was subsequently revised in February 1992, July 1998, July 2007, July 2008 and October 2009, but with no change to the local discharge limits (see Table 3.3). Since the implementation of the Federal Categorical Standards in April 1984, OCSD applies either the Federal Categorical Standards or OCSD's local discharge limits, whichever are more stringent.

3.4.2 Wastehaulers

After evaluating reference materials from the EPA and laboratory results from wastehauler samples taken by OCSD, pollutant limits were established for wastehaulers discharging domestic waste that approximate the maximum expected heavy metal concentrations from domestic wastes found in septic tank/cesspool wastes. These limits are shown in Table 3.3.

| TABLE 3.3 OCSD's Maximum Allowable Discharge Limits in Milligrams Per Liter (mg/L) Orange County Sanitation District, Environmental Compliance Division | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------------------------|-------------------------|
| Constituent | Limit (mg/L) | Constituent | Limit (mg/L) |
| Arsenic | 2.00 | Cyanide (Total) | 5.00 |
| Cadmium | 1.00 | Cyanide (Amenable) | 1.00 |
| Chromium (Total) | 2.00 | Polychlorinated Biphenyls | 0.01 |
| Copper | 3.00 | Pesticides | 0.01 |
| Lead | 2.00 | Total Toxic Organics | 0.58 |
| Mercury | 0.03 | Sulfide (Total) | 5.00 |
| Nickel | 10.00 | Sulfide (Dissolved) | 0.50 |
| Silver | 5.00 | Oil and Grease of Mineral or Petroleum Origin | 100 |
| Zinc | 10.00 | | |

TABLE 3.3 OCSD's Maximum Allowable Discharge Limits in Milligrams Per Liter (mg/L)
Orange County Sanitation District, Environmental Compliance Division

| Maximum Allowable Discharge Limits for Wastehaulers Discharging Domestic Septage | |
|---------------------------------------------------------------------------------------------|---------------------|
| Constituent | Limit (mg/L) |
| Cadmium | 1.0 |
| Chromium | 2.0 |
| Copper | 25.0 |
| Lead | 10.0 |
| Nickel | 10.0 |
| Zinc | 50.0 |

3.5 ESTABLISHING MASS EMISSION RATES (MER)

OCSD uses a dual approach to regulating wastewater constituents. In order to encourage water conservation, waste minimization, and recycling; to limit the total pounds of pollutants that enter the treatment facilities; and to deter achieving compliance through dilution; permits are issued with both concentration-based limits and mass emission limits. For concentration limits, OCSD applies either the Federal Categorical Standards or OCSD's local discharge limits (shown in Table 3.3), whichever are more stringent. Allowable mass emission rates are calculated using the applicable concentration limits in combination with an industry's three-year average wastewater flow (or base flow rate). The base flow rate is determined at the time a permit is initially issued or reissued.

The volume of wastewater used in establishing a permittee's limits is based on water meter information or additional reports submitted to OCSD. All new companies locating within OCSD's service area are issued mass emission rates (MERs), usually calculated on an estimated daily city water meter use until a sufficient water usage/discharge data base can be established. This process typically takes about one year. Unless additional water losses can be substantiated, 95% of the influent city water meter reading is considered to be discharged to the sewer. The remaining 5% is a standard allowance for losses in process, evaporation, and landscaping. An allowance for domestic waste is computed based on a daily usage rate of 25 gallons per employee per 8-hour shift. If there is documentation showing other water losses, such as product water loss or boiler loss, that are greater than the standard 5% deduction, then adjustments can be made to accommodate these losses. If water conservation beyond normal industrial practice takes place, the permitted flow may be adjusted to account for water conservation and/or water recycling.

The user's annual average industrial wastewater discharge, calculated as described above, is divided by the number of days worked per year to yield the net discharge in gallons per day. Because the limit in lbs/day provides a pollutant "ceiling", the user is prevented from introducing large quantities of water in an attempt to dilute concentrations to meet categorical requirements. If a discharger wishes to increase production by expanding capacity or increasing the number of hours worked, pretreatment capabilities must be increased to meet future requirements and ensure long-term compliance with the applicable limits.

If a permittee exceeds the MER or concentration discharge limits, the violation is subject to a noncompliance sampling fee as specified in the OCSD Ordinance *Establishing Source Control Fees, Administrative Fees, Non-Compliance Sampling Fees, and Miscellaneous Charges*, and may be subject to administrative penalties as provided in the *Wastewater Discharge Regulations Ordinance*.

INSPECTION, SAMPLING, COMPLIANCE, ENFORCEMENT

Introduction

Routine Sampling and Inspection

Non-Routine Sampling and Inspection

Orange County Hazardous Materials Strike Force

Industrial Compliance Status with Discharge Limits

Enforcement Activities

Enforcement Summary

Joint Agency Inspections

INSPECTION, SAMPLING, COMPLIANCE, ENFORCEMENT

4.1 INTRODUCTION

This chapter details the inspection, sampling, and enforcement activities of the Orange County Sanitation District (OCSD) industrial pretreatment program for FY 2013/14.

OCSD's industrial wastewater enforcement program has the goals of bringing Significant Industrial Users (SIUs) into compliance with federal pretreatment standards and OCSD's *Wastewater Discharge Regulations* (Ordinance) and discharge limits, and controlling and reducing industrial pollutants. As provided in the Ordinance, OCSD has a broad range of enforcement mechanisms available, including issuing noncompliance sampling fees, administrative penalties, Notices of Violation, compliance letters, Probation Orders, and Enforcement Compliance Schedule Agreements (ECSA); and instituting Emergency Suspension Orders, Permit Suspension and Permit Revocation Orders.

OCSD's enforcement program is designed to bring noncompliant industries back into conformance with federal pretreatment standards and OCSD's local discharge limits. If permittees violate a discharge limit, enforcement action is initiated. This includes the assessment and issuance of noncompliance sampling fees, and requiring the company to conduct additional sampling along with additional OCSD sampling. Subsequent noncompliance may result in issuing an order detailing corrective measures, requiring the installation of additional pretreatment equipment, requiring the implementation of pollution prevention measures, issuing Emergency Suspension Orders, or suspending or revoking the discharge permit.

An individual industrial discharge status summary of all Class I permittees is provided in the Monitoring and Compliance Status Report for FY 2013/14 (Appendix A of this report). The following sections describe OCSD's enforcement efforts and summarize permittees' compliance with EPA Categorical Standards and OCSD's local limits.

4.2 ROUTINE SAMPLING AND INSPECTION

OCSD's field staff consists of 1 Supervisor, 1 Principal Environmental Specialist, 1 Senior Environmental Specialist, 9 Inspectors, 3 Technicians and 1 Administrative Assistant who provide a visible presence and deterrence through on-site sampling and inspections. The inspectors sample and inspect each Class I permittee at least once every three months for regulated constituents. Class II permittees are also inspected and monitored if their discharges are known to contribute significant amounts of biochemical oxygen demand, total suspended solids, or oil and grease.

These inspections may include evaluation of waste manifests, other waste disposal documents, manufacturing plant processes, and pretreatment equipment; measurement of industrial wastewater flows; field testing of wastewater; and a review of regulations, policies, and procedures for the implementation of the pretreatment program.

Composite samples of a permittee's discharge are collected using automatic samplers and are time-composited over a 24-hour period. EPA sampling guidelines are used by the field inspectors for collecting and preserving samples. In conjunction with each inspector's on-site observations, the results of laboratory analysis are used to verify compliance status, help disclose potential operational and housekeeping problems, evaluate the adequacy of pretreatment systems, and detect new sources of regulated substances. Grab samples are collected for the determination of compliance with TTOs, cyanides, and pH.

During FY 2013/14, OCSD staff conducted 1,733 inspections and collected 3,770 wastewater samples resulting in 19,298 individual laboratory analyses. The number of conducted inspections increased this year by 5%, the number of samples collected remained virtually the same, and the number of analyses performed increased by 15%.

TABLE 4.1 Summary of Inspections, Sampling, and Laboratory Analyses, Fiscal Years 2010-14
Orange County Sanitation District, Environmental Compliance Division

| Action/Status | Fiscal Years | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------|---------|---------|---------|
| | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Industrial Inspections* | 1,492 | 1,629 | 1,677 | 1,641 | 1,733 |
| Samples Collected | 3,679 | 3,471 | 3,784 | 3,771 | 3,770 |
| Laboratory Analyses | 18,791 | 16,293 | 16,918 | 16,653 | 19,298 |
| * The number of composite sample events, inspections of an industry when there was no discharge, and grab samples, when not collected within one day after a composite sample. | | | | | |

4.3 NON-ROUTINE SAMPLING AND INSPECTION

OCSD's inspectors perform field duties beyond routine sampling and inspection, as summarized below:

- Enforcement inspections are performed in response to compliance problems, and typically involve close cooperation with the permittee to identify and correct deficiencies. Inspectors resample noncompliant industries within 30 days from the date of analysis verification, and submit compliance inspection reports to document corrective measures taken and to support enforcement action.
- Inspectors may participate in multi-agency operations such as warrant inspections and environmental audits. Cross-training with other agencies enables inspectors to recognize potential problems with other media such as air and hazardous waste.
- Trunkline monitoring focuses on industrial areas, and may identify unknown sources or permittees with noncompliant discharges. If the data indicates noncompliance, and if the probable source can be isolated, then a downstream monitoring project is proposed, as described in Section 4.3.1.
- Chronic violators are subject to increased monitoring and inspection activity, which may include extended periods of onsite sampling.
- Inspectors perform random sampling for cyanide at facilities that have cyanide treatment systems on site. The sampling occurs at the end of pipe, just prior to discharge. The purpose of this sampling is to confirm that all cyanide goes into the industry's treatment system for cyanide.
- Field support is provided to the Non-Industrial Source Control (NISC) team within the Environmental Compliance Division in support of their ongoing programs.
- Random sampling of sewers is performed in areas where there is an increased potential for illegal dumping by industries. These sampling events are generally precursors to downstream monitoring projects (described in Section 4.3.1) when illegal industry discharges can be confirmed.

4.3.1 Downstream Sampling

Covert sampling is conducted downstream of an industrial discharge location to verify continued discharge compliance or to determine whether discharge violations are occurring that are not being detected by on-site sampling. Typically, downstream sample sites are located in manhole structures in the local sewer through which the industry discharges. Downstream monitoring usually continues at a particular site for several days to characterize an industry's discharge habits.

Downstream monitoring was conducted on three industries during the period from July 1, 2013 through June 30, 2014. One industry was in compliance with OCSD discharge limitations. The other two industries were found in non-compliance with discharge limitations. Administrative actions were taken with both of these industries.

4.4 ORANGE COUNTY HAZARDOUS MATERIALS STRIKE FORCE (STRIKE FORCE)

OCSD joined with state, county, city and other local agencies to form a Strike Force capable of identifying, investigating, and prosecuting dischargers of hazardous materials to the environment. The initial goals of the Strike Force Steering Committee were to define the roles and responsibilities of each participating agency; establish the scope of the cases to be handled; emphasize cooperative identification, investigation and prosecution of violators; and develop protocols among all participating agencies to create a coordinated enforcement system. An overall protocol was adopted by the Orange County Board of Supervisors in June 1988, and the Strike Force investigators have conducted monthly meetings to discuss investigative strategies.

OCSD's staff used approximately 114.5 hours assisting the Strike Force in FY 2013/14 by attending meetings and conducting fieldwork in support of Strike Force activities.

4.5 INDUSTRIAL COMPLIANCE STATUS WITH DISCHARGE LIMITS

OCSD monitors and evaluates the compliance status of all regulated industries to determine the applicability of additional enforcement actions. Should the inspectors identify any deficiencies in an industry's process and/or discharge system, the industry is notified of the situation and corrective measures are required. A summary of the significant industrial users' yearly compliance status is shown in Appendix A.

4.5.1 Industries Consistently Achieving Compliance (CAC)

For Fiscal Year 2013/14 there were 283 industries that were consistently achieving compliance, which means they had no violations during the reporting period.

4.5.2 Industries Inconsistently Achieving Compliance (IAC)

For Fiscal Year 2013/14 there were 33 industries that were inconsistently achieving compliance, which means they had at least one violation during the reporting period. This number also includes those companies where a compliance determination could not be made; for example, a company could have been recently permitted and the inspector had not yet scheduled them for sampling.

4.5.3 Industries in Significant Noncompliance (SNC)

On July 24, 1990, the Environmental Protection Agency (EPA) supplanted the term "significant violation" with the term "significant noncompliance" as defined in 40 CFR 403.8(f)(2)(vii). At the end of each quarter, OCSD is required to evaluate their industrial user's compliance status using a six-month time frame. Under this system, each industrial user is evaluated for SNC four times during the year, and the total evaluation period covers 15 months (i.e., beginning with the last quarter of the previous pretreatment year through the end of the current year). OCSD is required to annually publish in the local newspaper all industrial users that have been identified as SNC during the past year when the SNC criteria were met during any of the previous four quarters. If a facility has been determined to be in SNC based solely on violations which occurred in the first quarter of the 15-month evaluation (i.e., the last quarter of the previous pretreatment year) and the facility has demonstrated consistent compliance in the subsequent four quarters, then OCSD is not required to publish the Industrial User (IU) in the newspaper if the IU was published in the previous year for the same violations.

As of June 30, 2014, of the active 333 Class I companies permitted there were 17 (5%) that had been classified as SNC; 8 of these were categorical industries, and 9 were noncategorical. An industry was determined to be in SNC if it incurred a violation that met one or more of the criteria listed below as provided in 40 CFR, Part 403.

- Chronic violations of discharge limits are defined as those in which 66% or more of all measurements taken during a six-month period exceed (by any magnitude) the daily maximum or the average limits for the same pollutant.
- Acute violations of discharge limits are defined as those in which 33% or more of all measurements taken during a six-month period constitute a major violation¹ of the daily maximum or the average limits.
- Any other violation of a pretreatment effluent limit that has caused, either alone or in combination with other discharges, interference or pass through.
- Any discharge of a pollutant that has caused imminent endangerment to human health, welfare, or the environment; or has resulted in OCSD's exercise of its emergency authorities.
- Failure to meet within 90 days after the scheduled date of a compliance schedule milestone contained in an enforcement order for starting construction, completing construction, or for attaining final compliance.
- Failure to provide required reports including, but not limited to, periodic self-monitoring reports and reports with compliance schedules within 45 days of the due date.
- Failure to accurately report noncompliance with discharge limits or any other requirements applicable to the user pursuant to OCSD's Ordinance.
- Any other violation or group of violations that will adversely affect the operation or implementation of OCSD's pretreatment program.

A summary of the permittees in SNC is presented in Table 4.2. The SNC list will be published in the October 26, 2014 issue of The Orange County Register; a copy of the announcement is presented in Appendix F.

¹

As provided in Section 102.A.42 of OCSD *Wastewater Discharge Regulations*, a major violation is a discharge exceeding a mass emission limit by 20% or more, a discharge exceeding a concentration limit by 20% or more, or a pH discharge less than 5.0.

| TABLE 4.2 Summary of Companies in Significant Noncompliance (SNC), Fiscal Year 2013-14 Orange County Sanitation District, Environmental Compliance Division | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------|------------------|
| Company Name | Permit No. | Category | City |
| <u>Industries SNC Due to Discharge Violations</u> | | | |
| Alexander Oil Co. | 58-1-185 | Local - CSDOC | Huntington Beach |
| Alcoa Global Fasteners, Inc. | 2-1-081 | Metal Finishing PSES + Aluminum Forming | Fullerton |
| Aviation Equipment Processing | 7-1-037 | Metal Finishing PSNS | Costa Mesa |
| Dentino Assoc. LLC | 52-1-845 | Local - CSDOC | Yorba Linda |
| Garg-Oil Production, LLC | 58-1-179 | Local - CSDOC | Huntington Beach |
| Gothard Street, LLC | 58-1-177 | Local - CSDOC | Huntington Beach |
| Harte-Hanks Shoppers | 2-1-069 | Local - CSDOC | Brea |
| Private Label Laboratories, Inc. | 52-1-755 | Soap-Detergent Manufacturing | Anaheim |
| S & C Oil Co., Inc. | 58-1-175 | Local - CSDOC | Huntington Beach |
| West Coast Plating | 51-1-401 | Metal Finishing PSNS | Santa Ana |
| <u>Industries SNC Due to Reporting Violations</u> | | | |
| Air Industries Company - A PCC Company | 3-1-013 | Local - CSDOC | Garden Grove |
| Anaheim Plating & Polishing | 2-1-150 | Metal Finishing PSNS | Anaheim |
| Chrome Tech, Inc. | 51-1-372 | Metal Finishing PSNS | Santa Ana |
| <u>Industries SNC Due to Both Discharge and Reporting Violations</u> | | | |
| Air Industries Company, A PCC Company | 53-1-404 | Nonferrous Metals Forming Part F + Metal Finishing | Garden Grove |
| Customline Screenprinting & Distribution | 52-1-831 | Local - CSDOC | Placentia |
| Energy Development Corp. Ch. 11 (aka SCOC) | 11-1-019 | Local - CSDOC | Huntington Beach |
| <u>Industries SNC Due to Failure to Accurately Report Noncompliance</u> | | | |
| Klean Waters, Inc. | 52-1-841 | Centralized Waste Treatment Part D | Orange |

4.6 ENFORCEMENT ACTIVITIES

During FY 2013/14, OCSD initiated or continued in effect various enforcement actions to bring companies into compliance. This section describes the types of enforcement actions taken against noncompliant companies. In addition, Appendix L shows a listing of pretreatment equipment that has been installed by OCSD's permittees.

4.6.1 Compliance Inspections

In order to identify and assess any noncompliance problems, corrective actions, and the progress of permittees operating under the terms of a Probation Order, Enforcement Compliance Schedule Agreement (ECSA), or any other enforcement action, an OCSD pretreatment program engineer and inspector conduct special compliance inspections. Seventy-two (72) compliance inspections were conducted during FY 2013/14.

4.6.2 Compliance Meetings

Compliance meetings are called as a result of the permittee's inability to achieve compliance with discharge requirements or to comply with OCSD's Ordinance. The meetings are held with company representatives to discuss the discharge problems and proposed long-term solutions. During FY 2013/14, 34 compliance meetings were held for those permittees that were in major or chronic noncompliance or were identified as SNC.

4.6.3 Notices of Violation – Noncompliance Fees, Penalties

A Notice of Violation (NOV) is a written notification from OCSD that references findings from recent sampling programs and indicates that specific violations of the permittees' discharge limits have occurred. The NOV is usually accompanied by noncompliance sampling fees. The NOV instructs the permittee to take immediate action to correct the problem. For FY 2013/14, 41 notices regarding noncompliance sampling fees and penalties were sent to 33 Significant Industrial Users.

When a permittee violates its permit limits, noncompliance fees are assessed at rates that have been adopted by OCSD's Board of Directors. For FY 2013/14, noncompliance fees, penalties, and judgments totaling \$70,840.00 were assessed (for details see Appendix E). An additional ~\$10,175.00 has been added to this total from SNC permittees whose names were published in the local newspaper, and for individual self-monitoring non-compliance fees. As noted below in Table 4.3, which shows a summary of the noncompliance fees for the last five years, the amount of total fees and penalties varies significantly depending on the circumstances and outcomes of cases pursued.

| TABLE 4.3 Summary of Noncompliance Fees and Penalties for Fiscal Years 2010-14 Orange County Sanitation District, Environmental Compliance Division | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------|----------------|----------------|
| Fiscal Year | | | | |
| 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| \$42,389 | \$22,959 | \$41,765 | \$60,278 | \$81,015 |

4.6.4 Probation Orders

Upon determination that a permittee is in non-compliance with the terms and conditions specified in its permit or any provision of OCSD's Ordinance, OCSD may issue a Probation Order. The Probation Order contains conditions, requirements and a compliance schedule. The term of a Probation Order does not exceed 90 days. The permittee is required to comply with all conditions and requirements within the time specified, including the submittal of information pertaining to waste source characterizations, pretreatment modifications, and waste minimization alternatives; and the performance of accelerated self-monitoring.

During FY 2013/14, OCSD had no Probation Orders.

4.6.5 Enforcement Compliance Schedule Agreement

An Enforcement Compliance Schedule Agreement (ECSA) is an agreement between the permittee and OCSD specifying that permit revocation will be temporarily held in abeyance provided that pretreatment equipment is installed or pollution prevention measures are implemented by the permittee within a scheduled time period, and that the permittee remains in consistent compliance during the term of the ECSA. The ECSA contains terms and conditions by which the permittee must operate and specifies dates for construction or acquiring and installing the pretreatment equipment and/or implementing waste minimization to achieve compliance. During the ECSA, inspection and sampling of the facilities are

conducted monthly by OCSD's inspectors to verify that all terms and conditions of the ECSA are met. In addition, the permittee is required to perform accelerated and extended self monitoring.

During FY 2013/14, OCSD issued two ECSAs.

| TABLE 4.4 Enforcement Compliance Schedule Agreements, Fiscal Year 2013-14 Orange County Sanitation District, Environmental Compliance Division | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------|------------------------|
| Company | Permit Number | Constituents | Compliance Date |
| Garg-Oil Production LLC | 58-1-179 | Total Toxic Organics | 9/1/2014 |
| Gothard Street LLC | 58-1-177 | Total Toxic Organics | 9/1/2014 |

4.6.6 Regulatory Compliance Schedule Agreement

Subsequent to the issuance of an Industrial Wastewater Discharge Permit to an industrial user, federal Categorical Pretreatment Standards may be adopted or revised by the EPA, or OCSD may enact revised discharge limits. If the General Manager determines that a permittee would not be in compliance with the newly adopted or revised limits, the permittee may be required to enter into a Regulatory Compliance Schedule Agreement (RCSA) with OCSD. The terms and conditions of a RCSA require the permittee to achieve compliance with all new standards by a specific date. RCSAs have a maximum term of two-hundred seventy (270) days.

The issuance of a RCSA may contain terms and conditions including but not limited to requirements for installation of pretreatment equipment and facilities, submittal of drawings or reports, waste minimization practices, or other provisions to ensure compliance with OCSD's Ordinance. While the RCSA is in effect, any discharge by the permittee in violation of the RCSA will require payment of non-compliance sampling fees in accordance with Article 6 of OCSD's Ordinance.

During FY 2013/14, OCSD had no RCSAs.

4.6.7 Administrative Penalties

Pursuant to the authority of California Government Code Sections 54740.5 and 54740.6, OCSD may issue administrative complaints and penalties against the responsible officer or owner of any company that violates any permit condition or effluent limit.

During FY 2013/14, OCSD issued one Administrative Penalty.

| TABLE 4.5 Administrative Penalties Issued, Fiscal Year 2013-14 Orange County Sanitation District, Environmental Compliance Division | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------------|
| Company | Permit Number | Administrative Penalties |
| Air Industries Company, a PCC Company | 53-1-404 | \$42,000 |

4.6.8 Permit Suspensions

When OCSD believes that grounds exist for permit suspension, the permittee is notified in writing of the reasons for permit suspension and the date of the permit suspension hearing. At the hearing, OCSD staff and the permittee are provided the opportunity to present evidence to a designated hearing officer. After the conclusion of the hearing, a written determination is made by the hearing officer. Upon issuance of a suspension order, the permittee must cease all discharges to the sewer for the duration of the suspension.

During FY 2013/14, no permit suspensions were issued.

4.6.9 Permit Revocations

The last recourse in the chain of administrative enforcement provisions is permit revocation. A permittee with a critical noncompliance record or who has failed to pay fees and charges is notified in writing of the reasons for permit revocation and the date of the permit revocation hearing. At the hearing, OCSD staff and the permittee are provided the opportunity to present evidence to a designated hearing officer. After the conclusion of the hearing, the hearing officer makes a determination if permit revocation is warranted, and provides a written report to the General Manager for final determination. Should the General Manager determine that the noncompliance record is substantial, revocation of the industrial waste discharge permit and loss of sewer discharge privileges may result.

During FY 2013/14 no permit revocation hearings were scheduled.

4.6.10 Emergency Suspension Order

Pursuant to Section 613 of OCSD's Wastewater Discharge Regulations, an Emergency Suspension Order may be ordered to stop an actual or impending discharge which presents or may present an imminent or substantial endangerment to the health and welfare of persons, or to the environment, or may cause interference to OCSD's sewerage facilities, or may cause OCSD to violate any state or federal law or regulation.

During FY 2013/14, no Emergency Suspension Orders were issued.

4.6.11 Civil/Criminal Complaints

When a permittee intentionally or negligently violates any provision of the Ordinance, permit conditions, or discharge limits, OCSD may petition to the Superior Court for the issuance of a preliminary or permanent restraining order. In addition, OCSD can petition the Court to impose, assess, and recover civil penalties for each day that violation occurs or seek criminal penalties for illegal disposal in accordance with OCSD's Ordinance.

No civil or criminal complaints were filed during FY 2013/14.

4.7 ENFORCEMENT SUMMARY

This section summarizes various enforcement activities taken against permitted companies for FY 2013/14. These actions include permit revocations, permit suspension, compliance inspections, compliance meetings, probation orders, and ECSAs.

3M ESPE (Permit No. 57-1-325)

3M ESPE (3M) is a metal finishing manufacturer of titanium alloy dental implant screws and the tools used to install them. Dental products manufactured onsite include dental bonding and adhesives, acrylic components, and metal crowns.

3M had a major copper violation in May 2013. OCSD conducted a compliance inspection in June 2013 to investigate the violation. 3M claimed that the copper piping in the deionized water influent system and/or process effluent discharge configuration led to the copper violation. OCSD determined that the copper plumbing was a plausible cause for the copper violation and, as such, OCSD required 3M to make necessary pretreatment system modifications to prevent non-compliance in the future.

July 1 - December 31, 2013

3M replaced the copper plumbing with non-metallic piping compatible with the deionized water system, and confirmed the completion of this installation in a letter dated **July 25, 2013**. Samples collected by 3M in **June** and **July 2013** showed compliance with the copper limit. OCSD will continue to monitor 3M's compliance status during the next quarter.

January 1 – June 30, 2014

3M ESPE had no violations this reporting period. OCSD will continue to monitor 3M's discharge and compliance status during the next quarter.

Accurate Circuit Engineering (Permit No. 1-1-138)

Accurate Circuit Engineering (ACE) is a printed circuit board manufacturer. Operations performed include photolithography, developing, etching, resist stripping, oxide coating, lamination, screening, drilling, scrubbing, and various acid/alkaline cleaning steps. ACE operates a continuous ion-exchange pretreatment system for all rinses and a batch hydroxide precipitation system for spent solutions and ion-exchange regenerant.

July 1 - December 31, 2013

ACE had no violations during this period.

January 1 - June 30, 2014

On **February 11, 2014**, ACE had a silver violation.

On **April 15, 2014**, OCSD conducted a compliance inspection, during which ACE indicated that the silver violation was caused by a leak in their film development process. On the day of the violation, the fixer solution which contains high concentration of silver leaked and ended up in the floor drain and directly to the sample point untreated, thereby causing the violation. The leaking machine had since been repaired. A berm made of polypropylene had also been constructed around the floor drain to prevent unintentional discharge of untreated solutions to the sewer.

ACE had no further violations during this period. OCSD will continue quarterly monitoring of ACE's discharge and compliance status.

Air Industries Company, a PCC Company (Permit No. 3-1-013)

Air Industries Company-Chapman Ave. (AIC-Chapman) receives and performs intermediate grinding and milling of fasteners (rivets, screws, bolts, nuts) manufactured at AIC's other facility (AIC-Knott). "Smog hog" ventilation systems are utilized to remove oil vapor from the shop atmosphere, and these

ventilation systems are cleaned periodically. Floor mop water and smog hog cleaning solutions are the only two sources of industrial wastewater in the facility. The wastewater is collected in a 3000-gallon holding tank and then pumped through a Koch membrane filtration system for oil & grease removal. The Koch system is back flushed with a detergent solution once a week, with the detergent flush routed back to the holding tank for pretreatment.

July 1 - December 31, 2013

AIC-Chapman had no violations during this period.

January 1 - June 30, 2014

On **April 24, 2014**, AIC-Chapman had an oil and grease violation. On **May 23, 2014**, OCSD conducted a compliance inspection and 30-day resampling, during which AIC-Chapman introduced new staff members that had been assigned to handle compliance issues. At the time of inspection, AIC-Chapman was in the process of replacing the filter media in the Koch unit. AIC-Chapman was advised to conduct evaluation and maintenance of the unit on a regular basis to avoid further noncompliance. AIC-chapman was also advised that that some self-monitoring reports were delinquent and that continued noncompliance and/or failure to submit reports in a timely manner will result in escalated enforcement. The 30-day resampling results showed compliance.

AIC-Chapman had no further violations during this period. OCSD will continue to monitor AIC-Chapman during the next quarter to determine if escalated enforcement is appropriate.

Air Industries Company, a PCC Company (Permit No. 53-1-404)

Air Industries Company-Knott St. (AIC-Knott) manufactures titanium and stainless steel fasteners (rivets, screws, bolts, nuts) for the aviation and aerospace industries. Wastewater is generated from the following operations: alkaline cleaning; etching; passivation; pickling; chemfilm; cadmium and nickel electroplating; and molten salt deoxidation of titanium parts. Wash water, along with floor mop water, is treated with oil skimming equipment followed by oil/water separation in storage tanks prior to discharge to the sewer. Rinse water from metal surface finishing is segregated and treated in a continuous pretreatment system. Pretreatment consists of standard chrome reduction, cyanide destruction, hydroxide precipitation, clarification, and sludge dewatering with a filter press. Oil skimming belts are installed in all three chambers of the clarifier for removal of residual oil and grease before discharge to the sewer.

From August through November 2012, AIC-Knott had multiple oil and grease and fluoride violations. In December 2012, OCSD issued an Order to Terminate Discharge Violations to AIC-Knott in response to the continued noncompliance.

In January 2013, OCSD held a compliance meeting with AIC-Knott to inform the company that an administrative complaint was forthcoming. At the meeting, AIC-Knott submitted documentation detailing pretreatment system improvements. AIC-Knott also submitted some of the company's missing self-monitoring reports. In February 2013, OCSD issued the administrative complaint. In March 2013, AIC-Knott entered into a Settlement Agreement with OCSD and paid \$26,000.00 in fines. In June 2013, AIC-Knott had another fluoride violation.

July 1 - December 31, 2013

On **August 8, 2013**, OCSD conducted a compliance inspection, which revealed that AIC-Knott had stopped treating their effluent for fluoride. Upon receiving a Notice of Violation (NOV) from OCSD, AIC-Knott resumed fluoride treatment. IN the NOV, OCSD directed AIC-Knott to continue fluoride treatment for as long as fluoride-containing compounds were in use at the facility. OCSD also suggested that improved automation be considered for this step of pretreatment. On **August 26, 2013**, AIC-Knott had a cyanide (amenable) violation. On **September 10, 2013**, AIC-Knott had an oil and grease violation.

On **October 3, 2013**, AIC-Knott had a cyanide (total) violation. On **October 31 and November 13, 2013**, OCSD conducted inspections to assess the state of AIC-Knott's pretreatment system and to collect additional samples to verify the system's effectiveness. During the inspections, AIC-Knott was informed that multiple delinquent self-monitoring reports still needed to be submitted, and that continued failure to comply with the reporting requirements would result in escalated enforcement. On **November 1, 2013**, OCSD issued a compliance meeting notification letter requiring AIC-Knott to attend a compliance meeting to discuss the discharge violations. The meeting was held on **December 10, 2013**, during which some of the missing self-monitoring reports were submitted. In the meeting, OCSD informed the company that the chronic discharge violations and repeated failure to submit self-monitoring reports could lead to another administrative complaint that may include permit suspension. AIC-Knott informed OCSD that the facility hired a new general manager specifically assigned by the parent company (PCC) to remedy the environmental issues.

January 1 - June 30, 2014

On **January 21, 2014**, OCSD issued an Order to Cease Noncompliant Discharges. On **January 22, 2014**, OCSD conducted a follow-up compliance inspection to meet with the new AIC-Knott environmental staff and determine what measures had been taken since his hiring. The new contact outlined his ideas, which included: wastehauling of oily wastes and spent solutions (previously treated on-site) until improved treatment equipment is obtained, increased internal monitoring of wastestreams for improved handling practices, assigning a pretreatment operator for all shifts, and hiring of additional clerical staff to handle self-monitoring reports.

On **March 12, 2014**, OCSD held the compliance meeting, during which AIC-Knott detailed the recent improvements. OCSD outlined an Administrative Complaint under consideration for the discharge violations and chronic reporting delinquency. The Administrative Complaint included a \$42,000 fine but suspension of the permit was not pursued based on completed pretreatment improvements. AIC-Knott chose to settle in lieu of receiving an Administrative Complaint. OCSD entered into a settlement agreement with AIC-Knott on **April 9, 2014**, which was finalized in the following weeks.

On **May 22, 2014**, AIC-Knott had a cadmium mass violation. OCSD will pursue this matter further during the next quarter.

Alcoa Global Fasteners, Inc. (Permit No. 2-1-081)

Alcoa Global Fasteners, Inc. (Alcoa) manufactures aluminum, titanium and steel fasteners. Wastewater-generating processes include cadmium, copper, silver, nickel and zinc plating, potassium permanganate treatment, cyanide stripping, glycol lubricant coating, acid stripping, chromate conversion coating, deburring, quenching, miscellaneous cleaning (mop water), acid/alkaline cleaning, and air scrubbing. The facility operates a continuous treatment system, which consists of pH adjustment, cyanide destruct, chromium reduction, clarification and sludge dewatering using a filter press. Separate, dedicated pretreatment systems are used including electrowinning (for silver plating) and oil/water separation.

January 1 - June 30, 2014

On **April 3, 2014**, Alcoa had a cyanide (amenable) violation. On **June 10, 2014**, OCSD conducted a compliance inspection in response to the violation. Alcoa was not able to provide any explanation for the violation. OCSD cautioned Alcoa that continued noncompliance would likely result in a compliance meeting to review the matter.

Alcoa had no further violations during this period. OCSD will continue quarterly monitoring of Alcoa's discharge and compliance status.

Alexander Oil (Permit No. 58-1-185)

Alexander Oil (Alexander) produces crude oil from a single oil well. Crude oil is separated from brine via gravity in a large wash tank. Pretreatment equipment consists of oil/water separation in the wash tank followed by two above-ground clarifiers. The second clarifier has air introduced through a venturi valve for removal of volatile organics. Oil is skimmed daily from the final clarifier.

In May and June 2013, Alexander had total toxic organics (TTOs) violations.

July 1 - December 31, 2013

On **July 7, 2013**, OCSD conducted a compliance inspection and 30-day resampling, during which OCSD noted that Alexander had installed a larger pump to increase air stripping efficiency.

On **July 8 and July 9, 2013**, Alexander had further TTOs violations. On **July 29, 2013**, OCSD informed Alexander that the 30-day resampling was in noncompliance. The company reported that a second clarifier tank with air sparging will be installed to improve TTOs removal efficiency.

On **August 30, 2013**, Alexander informed OCSD that the company had completed installation of the additional clarifier. Compliance verification testing showed reduction in TTOs but still not to compliance level. The company had planned on installing another clarifier. On **September 12, 2013**, Alexander had another TTOs violation. Alexander continued to update OCSD on their efforts and progress; however, consistent compliance was still not achieved.

On **December 2, 2013**, OCSD informed Alexander that an Enforcement Compliance Schedule Agreement (ECSA) with interim TTOs limits could be issued to give the company sufficient time to improve/modify the existing treatment system to achieve long-term and consistent compliance.

January 1 - June 30, 2014

Alexander had no violations during this reporting period. Alexander informed OCSD that an ECSA is not necessary since they had installed a new air stripping system and believed that this treatment system will be sufficient to keep them in compliance.

OCSD will continue quarterly monitoring of Alexander's discharge and compliance status.

Alloy Die Casting Company (Permit No. 3-1-073)

Alloy Die Casting Company (ADC) manufactures die cast parts from aluminum alloys and zinc alloys for the aerospace, automotive, communications, medical, and military/defense industries. Wastewater is generated from floor mopping and equipment cleanup, as well as from the wet tumbling and vibratory deburring operations. ADC operates separate batch treatment systems for oil and grease and deburring wastewaters. A filter press is used for dewatering sludge.

In November 2012, ADC had TTOs and total phenols violations. An MSDS search for phenolic compounds found the source of the violation. The company also underwent and resolved a series of personnel issues in 2012.

July 1 - December 31, 2013

On **November 4, 2013**, ADC had a TTOs violation. On **November 20, 2013**, ADC had a zinc violation. Due to the successive violations, OCSD scheduled a compliance meeting with ADC.

January 1 - June 30, 2014

On **February 4, 2014**, OCSD held a compliance meeting with ADC. The TTO detected in 2012 was 4-chloro-3-methylphenol; the last one was bis (2-ethylhexyl) phthalate. ADC stated that they had searched all MSDS's for the presence of this compound and could find no definitive source. ADC was recently sold, and the new owners moved in some equipment from a plant in Los Angeles. The equipment may have been contaminated with the constituent in violation. Since a new permit had to be issued due to the change in ownership, self-monitoring for TTOs (using EPA Method 625) was increased from semi-annually to monthly to determine the extent of the problem.

On **February 28, 2014**, OCSD terminated Permit No. 3-1-073.

On **March 1, 2014**, OCSD issued Permit No. 53-1-437 to the new owner. The new permit has a monthly TTOs self-monitoring requirement.

ADC had no further TTOs violations under the new permit. OCSD will continue to monitor ADC's discharge and compliance status during the next quarter.

Aluminum Precision Products, Inc. – Central (Permit No. 1-1-038)

Aluminum Precision Products, Inc. – Central (APP–Central) is a division of Aluminum Precision Products, a full service operation that produces aluminum forgings. This facility is dedicated solely to heat treatment of forged parts using steam and glycol quenching. Wastewater generated onsite goes to a below-ground clarifier prior to discharge to the sewer.

July 1 - December 31, 2013

APP-Central had no violations during this period.

January 1 - June 30, 2014

On **May 6, 2014**, APP–Central had copper concentration and mass emission rate violations.

OCSD will conduct a compliance inspection and 30-day resampling during the next quarter to investigate and identify the source of the violations.

Anodyne, Inc. (Permit No. 51-1-389)

Anodyne, Inc. (Anodyne) is a job shop that performs surface finishing and painting for aerospace, automotive, commercial, industrial, military, and recreational applications. The wastewater-generating operations include acid copper, alkaline zinc, aluminum bright dip, aluminum cleaner, aluminum etch, black chromate, dyes, bright nickel, bright tin, cadmium plate, chemfilm, chromic anodize, clear chemfilm, copper strike, deoxidizer, DI water rinse, dichromate seal, electrocleaner, electroless nickel, hard anodize, matte tin, muriatic acid activator, nickel acetate seal, nickel strike, nickel sulfamate, passivates, stainless steel pickle, sulfuric acid activator, sulfuric anodize, tin-lead, titanium activator, titanium cleaner, ultrasonic cleaner, and zincate. Anodyne operates both a continuous and a batch pretreatment system. The continuous pretreatment system consists of two-stage cyanide destruction, chrome reduction, hydroxide precipitation, clarification, and sludge filtration. A continuous closed-loop ion-exchange system has recently been added for cadmium plating and associated processes. The batch treatment system is used for treating static rinses and spent solutions, and consists of two batch treatment tanks equipped with mechanical mixers, chemical feed pumps, and automatic pH controllers.

In the fourth quarter of FY 2012/13, Anodyne had two cadmium violations, mainly due to personnel and procedure changes at the facility.

July 1 - December 31, 2013

On **July 9, 2013**, OCSD issued an Inspection Findings and Requirements letter to Anodyne requiring the company to provide a list of the sources and destination of all cadmium-bearing solutions, hire a qualified pretreatment system operator, and analyze and log all batch-treated wastewater, with a due date of **September 15, 2013** for completion. OCSD granted Anodyne a one-month extension to analyze two additional possible cadmium sources. Anodyne successfully completed all requirements on **October 21, 2013**.

January 1 - June 30, 2014

On **January 21, 2014**, Anodyne had another cadmium violation.

On **March 25, 2014**, OCSD held a compliance meeting with Anodyne. The company presented plans for installation of a temporary rental ion exchange system for cadmium treatment. Anodyne indicated that the company plans to purchase a permanent system once they are comfortable with the operation of the temporary ion exchange system. Anodyne also plans to completely close-loop the plant by addition of a vacuum evaporator in the distant future. The day prior to the meeting, Anodyne took delivery of a new conical-bottom batch treatment system to replace the two rectangular tanks which had been used for batch treatment.

On **April 21, 2014**, Anodyne had chromium and TTOs violations.

On **June 9, 2014**, OCSD inspected Anodyne to monitor progress with the ion exchange system installation. OCSD noted that the system was already plumbed with startup scheduled for the following day. Cadmium-bearing spent solutions were wastehailed until the temporary ion exchange system was fully operational.

OCSD will continue to quarterly monitoring of Anodyne's discharge and compliance status.

Arrowhead Products Corp. (Permit No. 3-1-137)

Arrowhead Products Corp. (Arrowhead) is a large aviation and aerospace parts manufacturer. The company specializes in metal and rubber ductwork and tubing fabrication, utilizing titanium and stainless steel sheet, wire, and tubing, along with rubber elastomer, for bellows and flexible connectors. Wastewater generated onsite includes rinse waters from a passivation/pickling process for the titanium and steel parts, hydro-testing and dye penetrant testing water, deburring wastewater, alkaline parts washers, and overflow from a large fume scrubber system.

Arrowhead's pretreatment system consists of pH adjustment, particle filtration, carbon absorption, and ion-exchange. Treated water from the columns is collected in an effluent holding tank and used for regeneration of the IX columns, with the excess diverted to a three-stage underground clarifier prior to discharge to the sewer.

During the first half of 2013, Arrowhead had multiple violations for TTOs. The two constituents detected were trichloroethene (TCE) and tetrachloroethylene (PCE). Arrowhead performed an MSDS search for all chemicals used on-site, but did not discover a source for these toxic organics. In June 2013, Arrowhead hired a consultant to do further investigative work and collect more internal samples to identify the source. Arrowhead also repaired and recapped an old leaking drain line that was discharging from the passivation/pickling process room into the clarifier. In addition, Arrowhead installed an air sparge system in the first stage of the clarifier to help aerate the wastewater after pretreatment.

July 1 - December 31, 2013

Arrowhead had no further TTOs violations during this period. However, minor concentration levels of TCE and PCE were still detected in their wastewater samples. The company planned to overhaul and remodel the passivation/pickling wet process area and eliminate the old drainage system into the clarifier by the end of 2014.

January 1 - June 30, 2014

TTOs sampling by OCSD and Arrowhead during the second half of the fiscal year continued to show low levels of TCE and PCE but still meeting the local discharge limit of 0.58 mg/L combined.

OCSD will continue quarterly monitoring of Arrowhead Products' discharge and compliance status.

Aviation Equipment Processing (Permit No. 7-1-037)

Aviation Equipment Processing (AEP) manufactures and repairs structural aircraft components using aluminum and composite materials. Wastewater is generated by surface preparation of the metal parts including alkaline cleaning, phosphoric anodize, sodium dichromate and miscellaneous shop cleanup. Until recently, only pH adjustment was used for pretreatment, with most other solutions (spent chemicals and dragout rinses) being wastehauled.

July 1 - December 31, 2013

On **November 22, 2013**, AEP had a chromium violation.

January 1 - June 30, 2014

On **January 14, 2014**, OCSD conducted a compliance inspection, during which OCSD noted that AEP had started using new batch pretreatment equipment on spent solutions that were previously wastehauled. AEP was required to submit an updated schematic and operations information immediately, which AEP immediately complied with. Additional sampling conducted shortly after the violation showed compliance.

AEP had no further violations during this period. OCSD will continue quarterly monitoring of AEP's discharge and compliance status.

Beo-Mag Plating (Permit No. 51-1-370)

Beo-Mag Plating (Beo-Mag) is a small job-shop performing surface finishing on parts made of aluminum, mild steel, and die-cast zinc. Wastewater is generated by alkaline cleaning, acid activation, fume scrubbing, copper, nickel, chrome, and gold plating, chrome stripping, electrocleaning, and zincate. Beo-Mag operates a continuous pretreatment system consisting of equalization, chemical precipitation, coagulation, clarification and sludge dewatering with a filter press. Beo-Mag also operates a batch pretreatment system to treat spent solutions and drag-out rinses prior to discharge to the sewer.

In January 2013, Beo-Mag had a nickel and a copper violation. Inspections by OCSD staff found that the capacity of the filter press was inadequate, preventing the pretreatment system operator from keeping up with solids disposal. Beo-Mag bought additional plates for their existing press, thereby doubling its capacity.

July 1 - December 31, 2013

Beo-Mag had no violations during this period.

January 1 - June 30, 2014

On **April 16, 2014**, Beo-Mag had a cyanide (total) violation. However, the noncompliant sample was not taken from the cyanide sample point (i.e., the batch tank) as specified in Beo-Mag's permit. Instead, it was taken from an above-ground clarifier downstream of the batch tank, because there was no batch available to sample at that time.

On **May 27, 2014**, OCSD conducted a compliance inspection, during which OCSD learned that the previous pretreatment system operator was no longer with the company, and that the company owner was the person operating the system during the noncompliance. OCSD noted that logs were no longer being maintained. However, Beo-Mag had hired a consultant, B&C Engineering, to correct this. OCSD also learned that Beo-Mag does not routinely take samples from every treated batch to determine compliance with the cyanide discharge limit. OCSD suggested that each treated batch be sampled and analyzed to validate the effectiveness of Beo-Mag's cyanide-destruct procedures and ensure that no further noncompliance occurs.

The cyanide (total) exceedance detected downstream of the sample point (batch tank) during the April 2014 sampling indicates that either a) there is a cyanide-bearing line incorrectly plumbed, or b) cyanide-bearing solution is being introduced into non-cyanide rinses, or c) cyanide is not adequately treated.

On **July 15, 2014**, on behalf of Beo-Mag, B&C Engineering provided an explanation for the violation. B&C Engineering's review of Beo-Mag's cyanide-destruct procedure found it to be effective. However, upon further investigation, they found out that on the day of the violation, the platers were rinsing parts in the nickel rinse instead of the copper cyanide strike static rinse because the water in the latter rinse was too dirty to use. The nickel rinse goes through the pretreatment system without cyanide treatment; hence the violation. Beo-Mag had no further violations during this period. OCSD will continue to monitor Beo-Mag's discharge and compliance status during the next quarter.

CD Video Inc. (Permit No. 51-1-845)

CD Video Inc. (CD Video) manufactures computer and digital video discs for retail distribution. The CD/DVDs are manufactured using blank polycarbonate discs that are "imprinted" from a nickel-plated master. Wastewater generated onsite includes rinsewater from the nickel plate, preclean, and developing/stripping processes. CD Video employs a packaged pretreatment system which collects the nickel mastering rinsewater/wastewater in a 200-gallon tank, then pumps out 50 gallon increments for batch treatment. Batch treatment includes pH adjustment with caustic, clarification, ultrafiltration (ceramic membranes), and solids filtration.

July 1 - December 31, 2013

CD Video had no violations during this period.

January 1 - June 30, 2014

On **April 15, 2014**, CD Video had a nickel violation. On **May 21, 2014**, OCSD conducted a compliance inspection, during which CD Video explained that their contract laboratory came out and collected the quarterly self-monitoring sample the same day that their pretreatment unit was being maintained (pH probe replacement). Due to this maintenance, that day's batch had not received adequate treatment. The contact indicated that maintenance activities would be coordinated more carefully in the future.

CD Video had no further violations during this period. OCSD will continue to monitor CD Videos' discharge and compliance status during the next quarter.

Cadillac Plating (Permit No. 2-1-062)

Cadillac Plating (Cadillac) is a job-shop that performs various metal finishing operations on steel and aluminum parts. Processes include alkaline and acid chloride zinc plating, bright tin plating, bright nickel plating, sulfuric anodizing, alkaline cleaning, acid activation, chromate conversion coating, chemfilm, and associated rinses. The facility operates a continuous hydroxide pretreatment system, which consists of pH adjustment, hexavalent chromium reduction, flocculent addition, clarification, and sludge dewatering with a filter press. A rectangular tank is used to batch treat spent solutions.

In August 2012, OCSD participated with other agencies in a raid of Cadillac in conjunction with a similar action at Imperial Plating, which is under the same ownership. This action was based on covert monitoring conducted from September 2011 through July 2012, which showed multiple violations of metal discharge limits believed to be caused by illegal dumping of untreated wastewater into the sewer. The Orange County District Attorney's Office agreed to prosecute the case. In August 2012, OCSD issued an Order to Cease Noncompliant Discharges to Cadillac. In October 2012, OCSD issued a Probation Order which included requirements for weekly self-monitoring, layout and process flow drawings, wastewater characterization at critical points, installation of a batch pretreatment system, labeling of tanks and process piping, a certified pretreatment operator, and submittal of an operations and maintenance manual. Cadillac met all requirements of the Probation Order upon the Order's expiration in January 2013.

July 1 - December 31, 2013

On **July 10, 2013**, Cadillac had a zinc violation. On **July 29, 2013**, Cadillac had a chromium violation.

On **September 11, 2013**, OCSD held a compliance meeting with Cadillac. Cadillac believed that the zinc violation occurred because flow from the rinse tanks had been shut down during plating operations, resulting in accumulation of zinc in the rinse water. The rinse tanks functioned as drag-out tanks at that time. The wastewater from these tanks was subsequently discharged to the continuous pretreatment system as a slug-load, thereby causing the violation. A Cadillac employee (non-operator) also discharged the contents of the batch treatment tank directly into the filter press, and from there into the pH neutralization module of the continuous treatment system.

On **September 23, 2013**, OCSD informed Cadillac in a letter that a certified operator is required during all hours of production, with OCSD to review each operator's qualifications before acceptance. Cadillac responded with credentials for three operators acceptable to OCSD.

January 1 - June 30, 2014

Cadillac had no further violations during this period. OCSD will continue to monitor Cadillac's discharge and compliance status during the next quarter.

Cartel Electronics (Permit No. 52-1-814)

Cartel Electronics (Cartel) manufactures rigid single-sided, double-sided, and multilayer printed circuit boards. Cartel specializes in prototype, quick-turn, and semi-production orders. Wet processes include photoresist developing, ammonium etching, alkaline resist stripping, Cobra Bond surface preparation, lamination, electroless copper plating, acid copper plating, electroless nickel plating, electroless gold plating, tin plating, alkaline cleaning, acid cleaning, and screen cleaning. Cartel operates a batch treatment system, a continuous ion-exchange pretreatment system, and a recovery batch unit.

July 1 - December 31, 2013

On **November 8, 2013**, Cartel had a minor copper violation.

On **December 17, 2013**, OCSD conducted a compliance inspection and 30-day resampling. Cartel reported that the minor copper violation may have been caused by maintenance work during that time.

The results of the 30-day resampling and all other samples taken after November 2013 showed compliance.

January 1 - June 30, 2014

Cartel had no violations during this reporting period. OCSD will continue to monitor Cartel's discharge and compliance status during the next quarter.

Cather Production Company (Permit No. 58-1-190)

Cather Production Company (Cather) is a crude oil extractor in Huntington Beach. There are five oil leases on the property (Nichols, Frazier, Hunnicutt, Sheffield, and Connell-Dowd) that operate six wells. Four of the wells are in full-time production; two (Nichols) are only part-time. The wells are between 3500-4000 feet deep, and the crude oil / groundwater mixture is brought to the surface with beam-rod pumps. Separated crude oil is stored in above-ground tanks until it can be hauled to a refinery. Cather discharges wastewater through three clarifier tanks in succession. The final clarifier tank is equipped with an air sparging unit.

July 1 - December 31, 2013

Cather had no violations during this period.

January 1 - June 30, 2014

On **June 30, 2014**, Cather had a TTOs violation.

OCSD will conduct a compliance inspection and 30-day resampling during the next quarter.

Cherry Aerospace (Permit No. 51-1-381)

Cherry Aerospace (Cherry) manufactures fastener systems for the aerospace industry, using parts made of aluminum, steel, titanium and nickel-based alloys. The fasteners undergo various surface treatment operations including plating (cadmium, chromium, nickel and zinc), anodizing, chromate conversion coating, passivation, various dye coatings, salt bath, stripping, acid/alkaline cleaning and lubricant application. The facility operates a continuous pretreatment system, which consists of ion-exchange, oil/water separation, cyanide destruction, hexavalent chromium reduction, equalization, precipitation, coagulation/flocculation, clarification, sludge thickening and dewatering with a filter press. Substantial rinse water reuse is achieved through the recycling of ion-exchange effluent. Cherry executed a Regulatory Compliance Schedule Agreement (RCSA) with OCSD in 2012, after having been converted to Metal Finishing Pretreatment Standards New Sources (PSNS) limits. The company installed an end-of-pipe ion exchange train to ensure compliance with the cadmium limits.

July 1 - December 31, 2013

On **September 11, 2013**, Cherry had a cadmium violation.

On **October 17, 2013**, OCSD conducted a compliance inspection. An interview with the system operators revealed that Cherry had run the scavenging resins in both of the ion exchange columns to exhaustion without a monitoring protocol. Cherry had then immediately replaced the resins in the lead column. Since Cherry's vendor plumbed the columns in series only one-way, flow through the columns cannot be reversed. OCSD explained how to properly operate such a system, and suggested plumbing the columns so lead-lag could be reversed. Cherry submitted a receipt for the new resins, as well as a new monitoring form for sampling between the columns. Further sampling by Cherry and OCSD showed compliance.

January 1 - June 30, 2014

Cherry had no further violations during this period. No further enforcement action is necessary at this time.

Chrome Tech, Inc. (Permit No. 1-1-037)

Chrome Tech Inc. (Chrome Tech) performs chrome plating on wheels. The process consists of stripping existing coatings, alkaline cleaning, acid activation, acid copper plating, semi-bright and bright nickel plating, and chrome plating, with a zincate process for plating on aluminum and a nickel strike for stainless steel. Chrome Tech operates a continuous pretreatment system consisting of equalization, two-stage cyanide destruction, chrome reduction, hydroxide precipitation, coagulation/flocculation, clarification, and sludge dewatering with a filter press. Chrome Tech uses a batch treatment system for treatment of spent solutions.

In January 2013, Chrome Tech had a cyanide (total) violation. At OCSD's suggestion, Chrome Tech increased the chlorine dosage for cyanide treatment. Chrome Tech stated that the cyanide reaction tanks were cleaned quarterly as routine preventative maintenance, but on this occasion, maintenance personnel noticed that the pipes had an accumulation of solids in the interior, so they disassembled and cleaned the piping.

July 1 - December 31, 2013

Chrome Tech had no violations during this period.

January 1 - June 30, 2014

Chrome Tech had no violations during this period. No further enforcement action is necessary at this time.

City of Tustin – Maintenance Yard (Permit No. 7-1-058)

City of Tustin's Maintenance yard is dedicated to maintenance & operation of city vehicles. Wastewater is generated by the handling of debris collected by street sweepers and a wash pad for cleaning various vehicles. The sweepers dump out collected waste materials on the yard and any leachate plus the wastewater from the wash pad seep through grates into an underground clarifier system, then on to the sewer.

July 1 - December 31, 2013

City of Tustin had no violations during this period.

January 1 - June 30, 2014

On **May 1, 2014**, City of Tustin had a minor TTOs violation. OCSD will conduct a compliance inspection during the next quarter to investigate this violation.

Customline Screenprinting (Permit No. 52-1-831)

Customline Screenprinting (Customline) performs screenprinting of client-designed images on casual sportswear. Wet processes include mixing of inks, cleaning of silkscreens, and miscellaneous clean up. Customline has no pretreatment equipment.

July 1 - December 31, 2013

Customline had no violations during this period.

January 1 - June 30, 2014

On **January 30, 2014**, Customline had a methylene chloride TTOs violation.

On **March 10, 2014**, Customline notified OCSD that the spot removal it uses has no methylene chloride. OCSD required company to do chemical inventory and employee training.

Customline had no further violations during this period. OCSD will continue quarterly monitoring of Customline's discharge and compliance status.

Dentino Associates LLC (Permit No. 52-1-845)

Dentino Associates LLC (Dentino) extracts and produces crude oil from oil wells located on a nearby property. Crude oil is separated from brine via gravity in a wash tank; the brine is directed to the sewer through an oil/water separator followed by an activated charcoal filter drum.

July 1 - December 31, 2013

On **October 8, 2013**, Dentino had an oil and grease violation. On **October 10, 2013**, Dentino had another oil and grease violation.

On **November 15, 2013**, OCSD conducted a compliance inspection to investigate the cause of the violations. During the inspection, OCSD was informed that Dentino had replaced the filter canister immediately upstream of the carbon drums as a corrective measure to improve silt removal. Dentino also installed an improved clarifier unit upstream of the filter canister.

January 1 - June 30, 2014

Dentino had no further violations during this period. OCSD will continue quarterly monitoring of Dentino's discharge and compliance status.

Electrolurgy, Inc. (Permit No. 7-1-162)

Electrolurgy, Inc. (Electrolurgy) is a large job-shop metal finisher, performing metal surface finishing and electro-polishing on customer-supplied parts made of aluminum, copper, mild steel, and stainless steel for aerospace, electronics, industrial, medical, and military applications.

July 1 - December 31, 2013

On **September 11, 2013**, Electrolurgy had a major nickel concentration violation and a nickel mass violation. On **September 23, 2013**, Electrolurgy had another nickel mass violation.

On **November 6, 2013**, OCSD conducted a compliance inspection and resampling. The resample showed compliance. Electrolurgy conducted an investigation into the source of the violation, including a review of in-house sampling records for the days in violation, collection of additional samples from process and treatment locations, and staff interviews. The in-house sampling records and additional sampling revealed no abnormal concentrations. Electrolurgy was not aware of any spills, dumps, or process errors. No definite source of the violations was found. Electrolurgy did pursue retraining of operators and made changes to the system including replacement of the filter press cloth and Memtek tubes, and cleanup of the holding pits and clarifier. These corrective actions were documented in a letter that was submitted to OCSD on **November 8, 2013**.

January 1 - June 30, 2014

On **May 9, 2014**, Electrolurgy had a major copper concentration violation, and on **May 14, 2014** a minor nickel violation. On **June 19, 2014**, Electrolurgy had a major cadmium violation and a major zinc violation.

On **July 30, 2014**, OCSD conducted a compliance inspection and resampling. Electrolurgy attributed the cadmium and zinc violation to untreated waste having been transferred from the batch treatment tank directly to the filter press sample point outlet. The qualified and experienced operator who successfully completed OCSD's operator training course had left the company. Inexperienced staff cleaned the batch tank and incorrectly discharged the flow through a temporary connection bypassing the treatment system. The cause of the nickel violation is presently unknown but it appears to be related to solids still present at the clarifier. The company pursued investigation and ruled out any issues with the Memtek filtration system as tubes had been recently replaced. It was noted during the inspection that another ion exchange treatment may be a source of concentrated nickel, as the media may be at its exchange capacity.

OCSD will continue to pursue enforcement related to recent violations and monitor Electrolurgy's discharge and compliance status in the next quarter.

Electron Plating III Inc. (Permit No. 2-1-336)

Electron Plating III Inc. (Electron Plating) takes in finished metal parts from various customers and surface finishes them with chromate-based chemfilming, dye coloring, zinc plating, and aluminum anodizing. The parts come primarily from the automotive, home improvement (bathroom fixtures), and construction industries. Alkaline and acidic precleaners are used, along with dragout tanks after most process solutions, followed with running rinses. A standard continuous hydroxide-based pretreatment system is used for heavy metals removal from the wastewater, along with a hexavalent chrome reduction module with automated pH and ORP controls. A large lamella-type clarifier is used for solids settling, and a filter press is used for solids dewatering.

In June 2013, Electron Plating had a cadmium violation.

July 1 - December 31, 2013

On **July 3, 2013**, OCSD conducted a compliance inspection, during which Electron Plating stated that floors in the wet process area were cleaned prior to inspection by another agency and the resulting wastewater was bled into their continuous pretreatment system. Electron Plating now wastehauls this wastewater. Wet processes were reviewed, none of which use cadmium, although it is most likely present in the acid cleaning/stripping solutions (nitric and muriatic). Electron Plating was also in the process of rebuilding their pretreatment system at the time of inspection.

On **December 4, 2013**, Electron Plating had a minor chromium mass violation.

January 1 - June 30, 2014

On **January 9, 2014**, OCSD conducted a compliance inspection and 30-day resampling. The refurbishing project was still ongoing at the time of inspection. OCSD advised Electron Plating to minimize water usage where possible and to submit updated flow data if flows were consistently higher due to production increases, so their permit could be revised to reflect a more representative flow base. The 30-day resampling results showed compliance.

On **March 27, 2014**, Electron Plating had another chromium violation. As a result, OCSD required Electron Plating to attend a compliance meeting on **May 13, 2014**. During the meeting, Electron Plating indicated that they had retained a consultant who had determined that the ORP monitor on the chromium treatment unit had failed leading to inadequate treatment of chrome-bearing wastewater. The consultant is now performing monthly calibration of pH and ORP probes.

Electron Plating had no further violations during this period. OCSD will continue to monitor Electron Plating's discharge and compliance status during the next quarter.

Energy Development Corp (Permit No. 11-1-019)

Energy Development (Energy) extracts and produces crude oil from multiple oil wells. Crude oil is separated from brine via gravity in a large wash tank, with the brine wastewater directed to the sewer after treatment for oil and grease and TTOs removal. Pretreatment at the facility includes an ozone treatment unit followed by a three-stage, above-ground clarifier.

July 1 - December 31, 2013

On **August 16, September 6, and September 13, 2013**, Energy had TTOs violations.

On **September 18, 2013**, OCSD issued a compliance meeting notification. Energy reported that unstable electrical current in their area damaged the UV lamp, thus causing upset to the ozone treatment unit and hence the violation. Energy laid out plans to build a stabilizing unit for the ozone unit to prevent surging of electric current and thereby protect the UV lamp. Energy also intended to clean the clarifier as an additional measure.

On **October 02, 2013**, OCSD issued an Order to Cease Noncompliant Discharges.

On **October 25, 2013**, OCSD conducted a compliance inspection and 30-day resampling. The resampling results showed compliance.

On **October 30, 2013**, OCSD held a compliance meeting with Energy, during which Energy reported that the following corrective actions had been implemented: replacement of inlet air filter on a monthly basis; increase in the intensity of the UV lamps to a maximum for continuous output; replacement of the UV lamps every 9 months, along with testing and replacing any ballast that shows signs of reduced output; increase in maintenance/cleaning of the pretreatment system to a more frequent 45-day schedule; replacement of the old produced water pump to a higher-volume continuous flow unit and piping; and increase in the clarifier pump-out schedule to a more frequent 90-day cycle.

January 1 - June 30, 2014

On **March 28, 2014**, Energy had another TTOs violation.

On **April 30, 2014**, OCSD conducted a compliance inspection and 30-day resampling. Energy reported that a new clarifier and a larger ozone unit were purchased but had not been installed, as they are waiting for their consultant to return from vacation. Installation of the new equipment was scheduled for the end of July 2014, per the consultant's response letter to this violation.

Energy had no further violations during this period. OCSD will continue quarterly monitoring of Energy's discharge and compliance status.

Garg-Oil (Permit No. 58-1-179)

Garg-Oil extracts and produces crude oil from a single oil well. Crude oil is separated from brine via gravity in a large wash tank. The crude oil is then stored in a 250-barrel stock tank, while the brine wastewater flows into a two-stage clarification system. Wastewater passes through each stage where solids settle out and volatile organic constituents are removed by air sparging.

July 1 - December 31, 2013

On **August 27 and October 17, 2013**, Garg-Oil had TTOs violations.

On **October 17, 2013**, OCSD conducted a compliance inspection and 30-day resampling. The resampling results detected another TTOs violation. The retention time and air rate in the clarifiers were apparently insufficient for TTOs removal. Thus, Garg-Oil increased the air rate to improve removal efficiency. On **September 19, 2013**, the company took a sample to verify the effectiveness of the pretreatment system modification and the result showed compliance.

On **December 18, 2013**, OCSD held a compliance meeting with Garg-Oil, during which OCSD informed Garg-Oil that an ECSA with a TTOs interim limit will be issued the following quarter to provide Garg-Oil sufficient time to improve/modify their existing pretreatment system to achieve long-term and consistent compliance.

January 1 - June 30, 2014

On **January 21, 2014**, an ECSA was executed between OCSD and Garg-Oil.

On **March 6, 2014**, Garg-Oil had an oil and grease violation.

On **April 17, 2014**, OCSD conducted a compliance inspection and 30-day resampling. Garg-Oil reported that they had cleaned out all the clarifiers and the effluent discharge pipe, and will maintain a 6-month cleaning schedule to prevent future noncompliance. The 30-day resampling results showed compliance.

Garg-Oil had no further violations during this reporting period. OCSD will continue quarterly monitoring of Garg-Oil's discharge and compliance status.

Gothard Street LLC (Permit No. 58-1-177)

Gothard Street LLC (Gothard) extracts and produces crude oil from a single oil well. The wastewater comes from the gravity separation of the extracted mixture of groundwater and crude oil. Pretreatment equipment consists of an oil/water separator and three-stage, above-ground clarifier with an air diffuser at the last stage.

July 1 - December 31, 2013

On **August 5, 2013**, Gothard had a TTOs violation. On **September 13, 2013**, Gothard informed OCSD that they will install another clarifier equipped with air sparging to improve treatment efficiency.

On **September 27**, Gothard had another TTOs violation. On **October 23, 2013**, OCSD conducted a compliance inspection and 30-day resampling. The inspection confirmed installation of the new clarifier. The resampling results showed compliance.

On **November 14**, Gothard had another TTOs violation. On **December 18, 2013**, OCSD held a compliance meeting with Gothard, during which OCSD informed Gothard that an ECSA with TTOs interim limits will be issued the following quarter to provide Gothard sufficient time to improve/modify their existing pretreatment system to achieve long-term and consistent compliance.

January 1 - June 30, 2014

On **January 28, 2014**, an ECSA was executed between OCSD and Gothard.

Gothard had no violations during this reporting period. OCSD will continue quarterly monitoring of Gothard's discharge and compliance status during the next quarter.

Graphic Packaging International, Inc. (Permit No. 57-1-314)

Graphic Packaging International, Inc. (GPI) is an integrated global supplier of beverage packaging and consumer folding cartons. It also produces bags, labels, inks, coatings, flexible and specialty packaging. The Irvine facility specializes in consumer packaging utilizing offset lithography printing.

July 1 - December 31, 2013

On **August 29, 2013**, GPI had an instantaneous and a minor zinc violation. On **September 20, 2013**, OCSD conducted a compliance inspection and resampling. The resampling results showed compliance. No definite source of the violation was found during the inspection. On **October 4, 2013**, OCSD issued an Inspection Findings and Requirements letter requiring GPI to determine the source of the violation. On **October 10, 2013**, GPI submitted an investigative plan, specifically to conduct research and analysis of a number of products and processes for high zinc content, including ink concentrations, UV coating product samples, new and mixed chiller water, UV and non-UV chiller water, and the discharge from the plating room. GPI's ink and coating vendors verified that the products used at the facility do not contain significant amounts of zinc. Subsequent sampling shows compliance. The investigative findings were completed and documented in a letter submitted to OCSD on **December 19, 2014**.

January 1 – June 30, 2014

Graphic Packaging International, Inc. had no violations this reporting period. OCSD will continue to monitor GPI's discharge and compliance status during the next quarter.

Hanson-Loran Company, Inc. (Permit No. 3-1-107)

Hanson-Loran Company, Inc. (Hanson-Loran) manufactures water-based floor finishers and specialty cleaners. Products include floor cleaners, waxes, strippers, cleaners, degreasers, sanitizers, disinfectants, and soaps. Manufacturing processes include both dry-blending (no wastewater discharge) and wet-blending. The dry-blending process is located inside the building, where powders are blended to produce Hanson-Loran's industrial cleaners. Wet-blending is conducted in four mixing tanks at the rear of the building. Wastewater is generated by the cleaning and rinsing of the mixing tanks, and is discharged through a four-stage underground clarifier.

July 1 - December 31, 2013

On **October 10, 2013**, Hanson-Loran had a TTOs violation. The primary constituent was chloroform.

On **November 19, 2013**, OCSD conducted a compliance inspection. Bleach is a component of many of Hanson-Loran's products. Hanson-Loran had just switched chemical vendors at that time, so OCSD suggested that Hanson-Loran speak to the new vendor regarding the purity of their product. Chloroform is known to be formed in a side reaction by mixing bleach with isopropyl alcohol, and since Hanson-Loran uses small quantities of isopropyl alcohol, it is possible that at some point during cleaning or in the clarifier the two compounds were mixed. OCSD instructed Hanson-Loran to prevent mixing of these compounds, and that if further violations occurred, treatment to remove organics would be required. Three additional TTOs samples collected in 2013 showed compliance.

January 1 - June 30, 2014

Hanson-Loran had no further violations during this period. OCSD will continue quarterly monitoring of Hanson-Loran's discharge and compliance status.

Harbor Truck Bodies, Inc. (Permit No. 2-1-286)

Harbor Truck Bodies, Inc. (Harbor Truck) manufactures commercial and utility truck parts and accessories. Wastewater generated onsite includes rinse water from the cleaning and phosphate conversion coating processes. The wastewater is captured in trenches and collects in a sump and then pumped over to a semi-continuous pretreatment system, which consists of pH adjustment, coagulation, precipitation, and clarification.

July 1 - December 31, 2013

On **July 18, 2013**, Harbor Truck had a minor zinc violation. On **August 27, 2013**, OCSD conducted a compliance inspection and resampling, during which Harbor Truck stated that after receiving the notice of violation from OCSD, the clarifier was pumped out the previous week, as a corrective measure, to remove residual solids. The resampling results showed compliance.

January 1 - June 30, 2014

On **June 24, 2014**, Harbor Truck had another minor zinc violation. Upon receipt of the noncompliant sample results from its contract laboratory, Harbor Truck notified OCSD that the outdoor clarifier had been cleaned and they were preparing to conduct a resample. In previous inspections, Harbor Truck had stated their clarifier was cleaned twice per year, but informed OCSD after this most recent sampling that they will look at increasing the cleaning frequency due to an upsurge in the company's business orders over the past year. OCSD will issue a Notice of Violation plus resample requirement during the next quarter, and will continue quarterly monitoring of Harbor Truck's discharge and compliance status.

Harte-Hanks Shoppers (Permit No. 2-1-069)

Harte-Hanks Shoppers (Harte-Hanks) is a large mail advertising and printing facility. Wastewater is generated from the rinsing of the printing equipment, ink dispenser plumbing, and two print plate developer machines. The pretreatment system at Harte-Hanks consists of pH neutralization, coagulation, and membrane filtration, and is conducted intermittently, once or twice per week. Backwash from the membrane filter is collected in drums and wastehailed offsite.

July 1 - December 31, 2013

On **November 6, 2013**, Harte-Hanks had a copper violation.

January 1 – June 30, 2014

On **January 3, 2014**, OCSD conducted a compliance inspection and resampling. OCSD did not notice anything unusual in Harte-Hanks' operations and pretreatment system. Harte Hanks notified OCSD that they had been unable to identify a source of copper from their printing and wet process operations, but were now looking into potential secondary sources. The resampling results showed compliance.

On **February 7, 2014**, Harte-Hanks had another copper violation. On **March 20, 2014**, OCSD conducted another compliance inspection and resampling. This time, Harte Hanks notified OCSD that they were replacing the copper plumbing from their pretreatment system area to the sample box in their front lawn, and they also had replaced the copper pipe from air conditioning units on the roof that were draining a small amount of condensate to the sewer system tied into the sample box. Resampling results showed compliance.

Harte-Hanks had no further violations during this period. OCSD will continue to monitor Harte-Hanks' discharge and compliance status during the next quarter.

International Paper Company (Permit No. 53-1-419)

International Paper Company (International Paper) manufactures paper bags for supermarkets and fast food restaurants. The manufacturing process consists of rolling, folding, and gluing the paper. Logos are printed on the bags using water-based flexographic inks. Wastewater is generated from the washing of the flexographic printers and from the glue-producing operations. International Paper operates a batch pretreatment system consisting of a 500-gallon storage tank, 1000-gallon treatment tank equipped with a mechanical mixer, automatic pH controller, chemical feed pumps, and a filter press.

July 1 - December 31, 2013

International Paper had no violations during this period.

January 1 - June 30, 2014

On **January 3, 2014**, International Paper had a copper violation.

On **February 7, 2014**, OCSD conducted a compliance inspection. The source of copper is green, blue, and purple inks that contain copper phthalocyanine as part of the pigment. International Paper uses approximately 25 different inks that contain this compound, and they are unable to discontinue their use due to print quality issues. The company had previously treated only wastewater that contained these copper-bearing pigments (nonmetal-bearing wastewaters were dumped directly to the floor sump). After a similar copper violation in 2012, procedures were changed to treat everything, since it was believed that copper-bearing wastewater had somehow been discharged without treatment. The sample point is a trench with the top half of the lateral pipe exposed. Since a 30-day composite resample was conducted concurrently, it was noted that the sample collection probe was lying in the sediments at the bottom of the pipe. When the sample was composited, significant amounts of solids were seen in many of the bottles.

On **February 27, 2014**, a sample collected from sample point had a copper concentration of 3.170 mg/l. A sample collected concurrently from upstream of the sample point had a copper concentration of <0.010 mg/l, conclusively proving that the copper came from the solid particulates, and not dissolved in the wastewater.

On **April 19, 2014**, OCSD staff met with International Paper to discuss the findings and possible remedies. The company had cleaned the pipe and pretreatment system area. International Paper asked for time to review the problem with corporate environmental, since International Paper operates similar plants elsewhere that may have successfully dealt with the problem. The request was granted.

On **May 19, 2014**, International Paper reported that they had met with corporate environmental, which had been unable to help. The company subsequently elected to hire Beckart Environmental to assess and remedy the problem. Their recommendations are expected to be received and implemented in the following quarter. OCSD will continue to monitor Orange County Plating's discharge and compliance status during the next quarter.

Klean Waters, Inc. (Permit No. 52-1-841)

Klean Waters, Inc. (Klean Waters) is a Centralized Waste Treatment (CWT) facility with a permit to receive and treat nonhazardous concentrations of metals, oil and grease, and organics. Vacuum and tanker trucks transport loads of wastewater from both in and outside of OCSD's service area and discharge it to a trench, from which it is pumped into one of eighteen holding and/or treatment tanks. Loads with significant solids content are first discharged to one of two settling pits inside the building, after which the clarified wastewater is transferred to the holding/treatment tanks. Solids are treated with perlite (diatomaceous earth) and disposed to a landfill.

Klean Waters was first issued a Class I permit on January 1, 2013, but it did not begin discharging until late May 2013. On June 1, 2013, a permit revision increased the flow base of the permit from 25,000 to

100,000 gpd, and added three special conditions to reiterate provisions in OCSD's Ordinance, as follows: 1) sampling data and customer profiles for all sources from outside OCSD's service area shall be submitted for review prior to acceptance, treatment, and discharge of wastewater from that source; 2) permittee shall inform customers that OCSD reserves the right to inspect and sample the source of any wastewaters discharged into OCSD's sewerage system upon reasonable notification; and 3) OCSD reserves the right to refuse any wastewater that will cause violation of its NPDES permit conditions, upset the treatment process, or adversely affect its ability to dispose of biosolids.

July 1 - December 31, 2013

In July 2013, Klean Waters had a monthly average copper violation.

January 1 - June 30, 2014

On January 3, 2014, OCSD conducted a compliance inspection and collected samples directly from two vacuum trucks discharging to the receiving pit. The wastewater from both trucks exceeded permitted discharge limits, and one of the loads was from outside OCSD's service area. During the inspection, OCSD noted that Klean Waters had not yet connected the pretreatment system specified in the drawings submitted with the permit application. Klean Waters claimed that only wastewater that did not require treatment was being discharged. Regarding loads coming from outside OCSD's service area, Klean Waters submitted a list of potential customers but with no accompanying sampling data or customer profiles, so Klean Waters had no permission from OCSD to accept such loads at that time.

On February 11, 2014, OCSD held a compliance meeting with Klean Waters, during which OCSD reiterated that Klean Waters is required to install and make operational a pretreatment system, and that, in accordance with the Ordinance and federal regulations, dilution could not be used as a substitute for treatment. The monthly average copper violation that occurred in July 2013 was also discussed.

From March 8-10, 2014, OCSD conducted downstream monitoring in a manhole west of the Klean Waters facility. Further investigation revealed that Klean Waters had accepted wastewater from companies outside OCSD's service area without seeking prior approval from OCSD, and had discharged approximately 630,000 gallons of noncompliant chromium-, copper-, and titanium-bearing wastewater from those companies. On March 24, 2014, OCSD issued an Order to Cease Non-Compliant Discharges (Cease Order) to Klean Waters.

On April 8, 2014, OCSD held a second compliance meeting with Klean Waters, during which Klean Waters was informed that OCSD intended to issue an administrative complaint for the noncompliant discharges and noncompliance with permit special conditions. During the same month, OCSD investigated discharges from outside OCSD's service area that have allegedly been accepted at Klean Waters without OCSD approval. On April 28, 2014, OCSD issued a second Cease Order to Klean Waters.

On May 14, 2014, OCSD issued a Notice of Violation to Klean Waters, after the company refused to allow entry to OCSD staff and also for not allowing OCSD staff to view sampling data and customer profiles as required by the special condition of the permit. On May 28, 2014, OCSD held a third compliance meeting with Klean Waters at the company's request. Discussions at the meeting included the lack of an adequate pretreatment system and Klean Waters' acceptance of waste from outside of OCSD's service area without prior approval from OCSD.

In June 2014, OCSD staff continued to investigate other discharges from outside OCSD's service area, that again have allegedly been accepted at Klean Waters without OCSD approval. At that time, the treatment system at Klean Waters was still not connected as per the drawing submitted with the initial permit application.

OCSD has referred this matter to its General Counsel for disposition. During the next quarter, OCSD will continue to monitor Klean Waters' discharges and pursue escalated enforcement action against Klean Waters for the aforementioned violations.

Kryler Corp. (Permit No. 2-1-428)

Kryler is a job shop performing surface treatment (plating, etching, coating & anodizing) of aluminum and steel parts supplied by various manufacturers. Chromium, cadmium, and nickel plating, passivation, chemfilm coating, acid & caustic cleaning, anodizing and miscellaneous shop cleanup are the sources of wastewater. Kryler relies on waste minimization and wastehauling to maintain compliance.

January 1 - June 30, 2014

On **May 2, 2014** Kryler had cadmium and lead violations. On **June 3, 2014**, OCSD conducted a compliance inspection, during which Kryler described a certain job that was being processed during the sampling period involving parts with very complicated surface features, which caused excessive carry-over into the rinses. Kryler has opted to eliminate that job. Kryler was cautioned that further noncompliance would lead to escalated enforcement.

Marukome USA, Inc. (Permit No. 14-1-023)

Marukome USA, Inc. (Marukome) processes and produces miso paste from cooked soybeans and rice. Marukome's pretreatment system consists of pH adjustment and clarification.

July 1 - December 31, 2013

On several days during this period, Marukome had pH violations. The biological decay of food waste passing through the facility's sample point, after insufficient treatment, caused the drop in pH levels. On **December 4, 2013**, OCSD held a compliance meeting with Marukome. As a result of the meeting, Marukome was required to install additional treatment equipment to mitigate the low pH. At the end of this reporting period, pre-construction tasks to install the required equipment were underway.

January 1 - June 30, 2014

In **March 2014**, Marukome completed its preliminary pretreatment system design and worked with the City of Irvine on permitting tasks in the following months. On **June 19, 2014**, OCSD conducted a compliance inspection to verify the installation and operation of the newly installed system. During the inspection, OCSD representatives discovered that all the proposed components of the system had been installed, however, staff had not been utilizing the system in the manner intended. As a result, the sampled effluent was not in compliance with pH limits.

OCSD will continue to pursue enforcement related to the pretreatment system installation requirement and monitor Marukome's compliance status in the next quarter during and after the operational issues are resolved.

Orange County Plating Company, Inc. (Permit No. 2-1-535)

Orange County Plating Company, Inc. (OC Plating) performs surface finishing on customer-supplied parts constructed of aluminum, mild steel, and die cast zinc. The company specializes in decorative chrome plating on aftermarket parts for automotive, commercial, and motorcycle applications. Wastewater-generating operations include acid activator, acid copper plate, acid pickle, aluminum cleaner, aluminum deoxidizer, aluminum tri-acid etch, anodize strip, bright nickel plate, chrome plate, copper strike, electrocleaner, sulfuric acid predip, nickel strike, metal strippers, paint strip, semi-bright nickel plate, soak cleaner, ultrasonic cleaner, and zincate. OC Plating operates a continuous pretreatment system consisting of equalization, two-stage cyanide destruction, chrome reduction, hydroxide precipitation, coagulation/flocculation, clarification, sludge dewatering with a filter press, and a fully-automated batch treatment system for spent solutions.

July 1 - December 31, 2013

On **September 26, 2013**, OC Plating had chromium and nickel violations.

On **October 29, 2013**, OCSD conducted a compliance inspection. The plating solution from the nickel tanks flows to a 30-gallon cylindrical sump, where it is pumped through the nickel filters. A seal in the pump failed, allowing nickel solution to leak from the head. A pan was placed under the pump to collect the solution, which was periodically emptied back into the sump. On the day of the violation, the platers failed to notice that the pan was full and had begun overflowing onto the floor into a collection sump, then into the continuous pretreatment system. The chemical feed was unable to keep up with the high concentration of the nickel plating solution, and since the reduced chromium and copper-bearing rinses commingle in the pH adjustment module, this caused the high concentrations resulting in a chromium violation. The pump has since been repaired, and five samples collected following the incident showed compliance.

January 1 - June 30, 2014

OC Plating had no further violations during this period. OCSD will continue to monitor Orange County Plating's compliance status during the next quarter.

Precision Chrome Plating (Permit No. 52-1-848), previously United Custom Polishing & Plating (Permit No. 2-1-237)

United Custom Polishing & Plating (UCP&P) was a former small job-shop that performed cleaning and electroplating of various metallic parts, including automotive wheels. Wet processes performed at the facility include acid and alkaline cleaning, zincate coating, copper, nickel and chrome electroplating, and electropolishing. UCP&P operated a batch and a continuous pretreatment system, which consisted of conventional hydroxide pH adjustment, clarification, sludge thickening, and sludge dewatering with a filter press. UCP&P was purchased by Precision Chrome Plating towards the end of 2012. During 2013, very little work or plating activity was observed by OCSD with the new company ownership during routine drive-by visits at the site, as the company was working primarily on treatment of plating shop wastewater (mainly rinse waters) left behind by UCP&P.

July 1 - December 31, 2013

The facility, now operating under the new ownership as Precision Chrome Plating, began treating and discharging small batches of rinse water in October 2013. Each treated batch was checked for compliance as instructed by OCSD. During this time, Precision Chrome Plating notified OCSD that instead of renewing their Class I permit in December 2013, they would elect to become a Zero Discharge facility once all the previous owner's wastewater had been treated and discharged, after which the pretreatment area would be dismantled and equipment removed.

On **December 3, 2013**, Precision Chrome Plating had a nickel violation, from an OCSD sample taken from the last batch of rinse water treated and discharged to the sewer. Later in December, OCSD conducted a compliance inspection and noted that the pretreatment equipment had been disconnected, cleaned, and made ready for transport off site. OCSD continued to monitor the facility as some process chemicals remain inside the plating shop. The City of Anaheim Fire Department / HazMat Division was also aware of the situation, and maintained contact with Precision Chrome Plating on their future plans for disposition of these chemicals.

January 1 - June 30, 2014

In follow up inspections of the facility in **January 2014**, Precision Chrome Plating notified OCSD of its intent to shut down operations and attempt to sell the business, which was accomplished in **April 2014**. The new ownership and facility name is Platinum Surface Coating, and was issued Class I Permit No. 52-1-852 on **June 1, 2014**, after the plating shop was remodeled and a new batch treatment system installed.

Platinum Surface Coating notified OCSD that they would begin treatment operations with their first batches of wastewater in July 2014, and OCSD will collect samples from these initial batches during that time.

Private Label Laboratories, Inc. (Permit No. 52-1-755)

Private Label Labs, Inc. (Private Label) is a large chemical company that blends liquid cleaning materials, floor cleaners, and water treatment chemistries for wholesale and retail distributors, using raw chemistry and dry material purchased from chemical manufacturing companies throughout the U.S. and overseas. Wastewater is generated by the cleaning/rinsing of mixing and blending equipment plus process area/floor washdown, and is collected in trenches connected to a floor sump, then pumped into a 3,000-gallon batch treatment tank for manual pH-adjustment using caustic solution plus air sparge mixing. After treatment, the water is pumped to a 3,000-gallon holding tank located outside of the building, which is plumbed to a floor drain for discharge to the sewer.

July 1 - December 31, 2013

On **September 16, 2013**, Private Label had zinc and chrome violations. Prior to this violation, Private Label had sporadic zinc and copper violations in 2012 and zinc violations earlier in 2013, but due to the multitude of raw chemistries and the number of vendors used by Private Label, the company was having difficulty identifying the sources of metals in the raw materials utilized on site.

On **October 30, 2013**, OCSD conducted a compliance inspection and resampling. During this time period, Private Label informed OCSD that they had identified a source of zinc in one raw material present on site, and had restricted the handling and blending of this material to an area away from the main blending room. The company also showed OCSD plans to install a new filter system at the batch treatment tank.

The resampling results still showed high zinc concentration but chrome was in compliance. OCSD issued a Notice of Violation to Private Label on **November 25, 2013**, and the company responded soon afterwards that the filter system had been installed and appeared to be working as planned, and that large amounts of solids were being removed from the batch treatment tank after mixing and pH adjustment. On **December 20, 2013**, OCSD conducted another compliance inspection and resampling, during which OCSD recommended to Private Label to increase the air sparging time in the batch treatment and holding tanks and aerate the wastewater further before grab samples for TTOs are taken, which the company agreed to do.

The resampling results were in compliance. OCSD will continue quarterly monitoring of Private Label Labs' discharge and compliance status.

Rigid Flex International (Permit No. 51-1-398)

Rigid Flex International (Rigid Flex) manufactures printed circuit boards. Wastewater generating operations include developer, etching, resist stripping, acidic/alkaline cleaning, acid copper plating, brown-oxide lamination, micro-etch, screen cleaning, and associated rinsing. Pretreatment system consists of equalization tank, pH adjustment, and ion-exchange. Spent chemicals and ion-exchange regeneration waste are wastehailed off-site.

July 1 - December 31, 2013

Rigid Flex had no violations during this period.

January 1- June 30, 2014

On **January 13, 2014**, Rigid Flex had a copper violation.

On **January 19, 2014**, OCSD conducted a compliance inspection and 30-day resampling. Rigid Flex reported that the film developing rinse and screen cleaning rinse went to the pretreatment system causing

treatment interference. OCSD recommended segregation of low-heavy metals rinse water to stop treatment interference with organic/surfactant substances.

Rigid Flex had no further violations during this period. OCSD will continue to monitor Rigid Flex's compliance status during the next quarter.

S&C Oil Co., Inc. (Permit No. 58-1-175)

S&C Oil extracts crude oil from a single oil well. Wastewater comes from the gravity separation of the extracted mixture of groundwater and crude oil. Pretreatment equipment consists of oil/water separator and above-ground three stage clarifier. Air diffuser is located at the second stage of the clarifier for removal of volatile organic compounds.

July 1 - December 31, 2013

S&C Oil had no violations during this period.

January 1 - June 30, 2014

On **March 12, 2014**, S&C Oil had a TTOs violation.

On **April 8, 2014**, S&C Oil notified OCSD that the violation was caused by pump malfunction. New pump with plastic casing was replaced to prevent corrosion problem so pump would last longer.

On **June 27, 2014**, S&C Oil had another TTOs violation. OCSD will conduct a compliance inspection to investigate cause of violation during the next quarter.

Storm Water Online, Inc. (Permit No. 52-1-835)

Storm Water Online, Inc. (SWO) operates a centralized treatment and disposal facility for selected sources of contaminated wastewater. Only non-hazardous, non-RCRA materials are allowed to be accepted at the site, and SWO operates an onsite laboratory to verify the truckloads of wastewater to be processed. Pretreatment of the wastewater includes initial bulk filtration and separation, followed by polymer addition and zeolite processing. Final filtration and carbon adsorption are performed prior to sewer discharge.

In November 2012, SWO had a TTOs violation. The primary constituent detected was 4-methylphenol.

In January 2013, OCSD conducted a compliance inspection, during which SWO stated that from the records of samples of each batch received, they identified the client whose load contained that constituent and temporarily banned this client from sending further loads.

In April 2013, SWO had a copper violation. In May 2013, SWO had another TTOs violation (again, due to 4-methylphenol).

July 1 - December 31, 2013

On **July 17, 2013**, OCSD held a compliance meeting with SWO to discuss the violations. During the meeting, SWO detailed improved handling methods for the wastewater containing the 4-methylphenol. The constituent was being generated by storage conditions (heat and high pH) at the remote facility. These conditions were improved by the client and the wastewater deliveries commenced subsequently. The copper noncompliance was attributed to a client delivering food-related wastewater that used copper sulfate in their manufacturing process. Wastewater containing the copper sulfate was banned by SWO upon that discovery.

On **August 14, 2013**, SWO had an arsenic violation. On **August 20, 2013**, OCSD conducted a compliance inspection, during which the treatment operations were reviewed in detail. On **October 1, 2013**, SWO submitted a detailed report outlining treatment procedures performed based on the type of wastewater (oily, organic, or metallic) being handled. Additional sample results were included in the report showing compliance with discharge limits.

On **November 14, 2013**, SWO had a copper violation. On **December 31, 2013**, OCSD conducted another compliance inspection, during which it was found that SWO had substantially increased their capacity and was handling higher volumes. OCSD required SWO to install an improved sampling point immediately since individual grab samples would no longer be representative of the continuous daily discharge. Also, SWO was required to submit an updated schematic of their new facility layout which was received shortly after the inspection.

January 1 - June 30, 2014

On **January 23, 2014**, OCSD conducted a follow-up inspection and found that the new sample point was in place.

On **February 25, 2014**, SWO had another copper violation albeit a minor one. On **March 19, 2014**, OCSD held a compliance meeting with SWO to discuss the violations. During the meeting, OCSD cautioned SWO on the probable consequence of continued noncompliance, particularly the possibility of an Administrative Complaint. Also, OCSD informed SWO that their permit would be revised to increase the frequency and extent of self-monitoring and to establish additional conditions requiring SWO to improve the profiling of the wastewater they receive to ensure proper treatment by a qualified treatment operator.

On **June 2, 2014**, SWO informed OCSD of the pending sale of the business to an out of county competitor and that the new owner would like the existing permit transferred. The revised permit, with all new conditions, was transferred to Green Compass effective July 2014. OCSD will continue regular monitoring of Green Compass's discharge and compliance status.

Strip Clean Company (Permit No. 2-1-673)

Strip Clean is a job shop that strips paint from car bodies for restoration. Metal parts are steel or cast iron. Wastewater is generated from caustic dip, acid dips, and associate rinses. Strip Clean has no pretreatment system. Neutralization depends on the blending of alkaline and acidic wastewater. Spent chemicals are wastehailed off-site.

July 1 - December 31, 2013

Strip Clean had no violations during this period.

January 1 - June 30, 2014

On **February 4, 2014**, Strip Clean had a zinc violation.

On **March 13, 2014**, OCSD conducted a compliance inspection and 30-day resampling. The violation was attributed to excessive drag-out from the caustic solution. Strip Clean modified its drag-out procedures and trained employees to practice proper waste minimization and management.

Strip Clean had no further violations during this period. OCSD will continue quarterly monitoring of Strip Clean's discharge and compliance status.

Thermal-Vac Technology, Inc. (Permit No. 2-1-282)

Thermal-Vac Technology, Inc. (Thermal-Vac) assembles heat exchangers, flow fittings, chassis, wave guides and surgical devices made of steel, stainless steel, and aluminum. Processing includes heat treatment, brazing, and assembly work. Wastewater-generating operations include alkaline cleaning, alkaline etchant, aqueous cleaner, nickel strip, bright dip, deoxidize, desalt, muriatic acid, nitric acid, nitric etch, nitric/hydrofluoric acid, quench, ultrasonic cleaner, Watts nickel plate, and Woods nickel strike. Thermal-Vac operates an ion exchange system to remove metals from the plating operations' wastestream prior to further treatment in the continuous pretreatment system, which consists of equalization, mixing, and automated pH control with a chemical feed pump.

July 1 - December 31, 2013

On **July 2, 2013**, Thermal-Vac had a copper violation. Thermal-Vac has no copper processes and does not process copper alloys. On **August 29, 2013**, Thermal-Vac submitted a letter stating that the maintenance performed on the furnaces and brazing equipment during the week of the violation may have caused the noncompliance.

On **September 25, 2013**, OCSD conducted a compliance inspection and routine quarterly sampling. The sample results showed only trace concentrations of copper.

On **October 21, 2013**, during a follow-up inspection and interviews with maintenance personnel, OCSD learned that a coolant line in a furnace ruptured. Maintenance personnel disassembled the furnace and the cooling tower servicing it. Parts made of copper had mineral deposits which were removed by immersing in a muriatic acid solution. This spent solution was dumped into the treatment system, which operates at pH 10 (optimal for nickel removal as a backup to the ion-exchange columns in the plating shop). Since optimal insolubility for copper is pH 8, this most likely caused the violation. OCSD suggested that the parts be cleaned in the future by abrasive blasting, the spent solution wastehauled, and/or the pH of the pretreatment system be adjusted to 8 when such maintenance is required. Seven samples collected since the violation showed compliance.

January 1 - June 30, 2014

Thermal-Vac had no further violations during this period. OCSD will continue quarterly monitoring of Thermal-Vac's discharge and compliance status.

Toyota Racing Development (Permit No. 7-1-059)

Toyota Racing Development (TRD) manufactures new and rebuilt high-performance engines used in various motorsports. Wastewater generated onsite includes dye penetrant rinse from parts inspection processes, parts washer rinse and aqueous parts cleaner from teardown operation, condensate from compressors, engine cooling water from testing, and miscellaneous floor waste. The pretreatment system at TRD includes an aboveground clarifier followed by two particle filter units, one clay filter bed and two granular activated carbon beds.

July 1 - December 31, 2013

On **August 6, 2013**, TRD had an oil and grease violation. On **August 22, 2013**, OCSD conducted a compliance inspection, during which TRD informed OCSD that as a corrective measure the clay filter media had been replaced and the schedule for maintenance re-evaluated.

January 1 - June 30, 2014

TRD had no further violations during this period. No further enforcement action is being considered at this time.

Viasystems North America, Inc. (Permit No. 52-1-847)

Viasystems North America, Inc. (Viasystems) is a large scale, full-service printed circuit board shop. Industrial wastewater at Viasystems is generated from the processing of copper laminates into printed circuit boards. Wet processes performed include: copper plating, electroless copper plating, nickel/gold plating, solder mask, alkaline cleaning, acid cleaning, scrubbing, developing, resist stripping, tin stripping, etching, screen cleaning, oxide coating, and miscellaneous cleanup/mopwater. Rinse schemes practiced at the facility include significant use of static rinses in addition to running rinses. Viasystems operates a continuous pretreatment system, which includes pH adjustment and multiple ion exchange resin beds, with much of the effluent reused. Batch treatment (pH adjustment, flocculation, clarification followed by sludge dewatering with a filter press) is also performed on spent solutions including ion exchange backflush. Concentrated wastestreams (etchant, spent plating solutions) are wastehailed offsite.

January 1 - June 30, 2014

On **May 14, 2014** Viasystems had a silver violation. OCSD will conduct a compliance inspection during the next quarter to investigate this violation.

West Coast Plating (Permit No. 51-1-401)

West Coast Plating (WCP) is a metal-plating job shop that specializes in decorative chrome finishing on aluminum automotive wheels. Wastewater is generated by alkaline cleaning, aluminum etching, chrome plating, chrome predip, copper inhibitor, copper plating, electrocleaning, hydrochloric activation, nickel plating, nickel strike, sulfuric activation, zincate, zincate stripping, associated drag-out and static rinsing. West Coast operates a batch treatment system consisting of chromium reduction, cyanide destruction, conventional hydroxide precipitation, sludge thickening, and effluent pH adjustment.

July 1 - December 31, 2013

WCP had no violations during this period.

January 1 - June 30, 2014

On **May 1, 2014**, WCP had a cyanide (total) violation.

OCSD has attempted to conduct a compliance inspection and 30-day resampling but WCP has been shut down by the City of Santa Ana Fire Department. OCSD will conduct a compliance inspection as soon as the facility is allowed to resume operations by the Fire Department.

4.8 JOINT AGENCY INSPECTIONS

OCSD has participated in joint agency inspections of industries suspected of violating hazardous waste and sewer discharge regulations. This cooperative effort has involved other agencies responsible for environmental management and citizen safety such as the EPA and RWQCB during audits, the Orange County Health Care Agency (Waste Management Section), Orange County District Attorney's Office, Irvine Ranch Water District, Santa Ana Watershed Project Authority, and city building and fire departments. These inspections have aided in correcting existing and potential discharge problems and have alerted each of the participating agencies to the concerns of the others.

NON-COMPATIBLE POLLUTANTS DISCHARGED BY INDUSTRY

Introduction

Industrial Discharge of Metals

Arsenic

Mercury

Cyanide

Organic Priority Pollutants

Radioactivity

Overall Trends

NON-COMPATIBLE POLLUTANTS DISCHARGED BY INDUSTRY

5.1 INTRODUCTION

The Orange County Sanitation District (OCSD) is required by its National Pollutant Discharge Elimination System (NPDES) permit to do influent and effluent wastewater analyses on a regular basis for more than 130 potentially toxic substances. Some of these substances are defined as non-compatible pollutants, which are pollutants that OCSD's treatment facilities are not designed to treat or remove. Thus, they are the focus of pretreatment or source control efforts carried out through OCSD's "*Wastewater Discharge Regulations*" (Ordinance). There are three potential sources of non-compatible pollutants: industrial wastewater, commercial wastewater, and domestic wastewater. By understanding how non-compatible constituents are used, OCSD can target potential industrial sources of discharge and provide meaningful guidance on how industries can achieve compliance with applicable pretreatment limits.

OCSD conducts daily, weekly, monthly, quarterly, and semi-annual sampling of wastewater from Reclamation Plant No. 1 and Treatment Plant No. 2 for various influent and effluent constituents. Of particular importance are the analyses of toxic pollutants. Analyses are done for priority pollutants and designated pesticides. Other organics not included on these listings are detected as part of this analytical effort. Analyses are performed by either OCSD's Laboratory or outside contract laboratories.

This chapter presents the results of influent and effluent monitoring for non-compatible pollutants for FY 2013/14 plus historical influent and effluent data. Since 1976/77, when the original Ordinance was adopted, the total influent metal loadings have declined 85% and the total effluent metal loadings have declined 98%. This is particularly significant since OCSD's service area has undergone substantial growth and development during the same time.

5.2 INDUSTRIAL DISCHARGE OF METALS

Table 5.1 presents the daily average influent mass loading of the seven primary metals (cadmium, chromium, copper, lead, nickel, silver, and zinc) to OCSD's two treatment plants, the daily average metals mass loading from permitted dischargers, and the estimated daily metals mass from domestic sources. For FY 2013/14, 8% of the total influent metals mass was identified as originating from permitted industrial and wastehauler sources compared to 7% from last fiscal year. For all metals, the sum of the industrial contribution and estimated domestic contribution was less than the daily average influent mass. Some disparities exist, which could be called non-routine discharges, and they may be the result of inherent anomalies in comparing different databases, underestimates of the domestic contribution, or under-reporting of the industrial/commercial contribution because of illegal discharges or highly variable discharges. In addition, OCSD does not have reliable discharge data for commercial-only discharges.

Comparisons of the results of routine on-site industrial sampling to the results of clandestine downstream sampling have shown that some industries discharge greater quantities of metals when OCSD's on-site samplers are not in place. For silver, it is believed that non-routine discharges can be primarily attributed to a variety of small, diffuse commercial sources including one-hour photo processing companies, hospitals, clinics, and dentist and doctor offices. It should be noted, however, that present pretreatment program efforts have ensured there are no industrial pass-through or interference events at OCSD's treatment facilities.

TABLE 5.1 Heavy Metal Mass Balance in Wastewater Tributary to OCSD's Treatment Facilities (lb/day), Fiscal Year 2013-14
Orange County Sanitation District, Environmental Compliance Division

| Metals | OCSD's Influent | Domestic Contribution | Known Avg. Permittee Contribution | Waste haulers | Percentage of Constituents Attributed to Known Discharges | | |
|----------|-----------------|-----------------------|-----------------------------------|---------------|-----------------------------------------------------------|---------|---------|
| | | | | | 2011-12 | 2012-13 | 2013-14 |
| Cadmium | 1.2 | 0.2 | 0.2 | 0.004 | 100 | 62 | 34 |
| Chromium | 11.7 | 1.6 | 2.3 | 0.024 | 34 | 33 | 34 |
| Copper | 179.8 | 84.7 | 14.5 | 1.184 | 62 | 60 | 56 |
| Lead | 4.6 | 2.4 | 0.4 | 0.114 | 62 | 51 | 63 |
| Nickel | 23.5 | 7.2 | 4.5 | 0.034 | 63 | 37 | 50 |
| Silver | 2.5 | 0.2 | 0.3 | 0.001 | 9 | 12 | 20 |
| Zinc | 278.6 | 134.6 | 15.9 | 2.045 | 63 | 52 | 55 |

Domestic/commercial heavy metal concentrations are updated when data suggests a change is appropriate. The domestic contribution is computed at 88% of the average combined influent flow of 198 MGD.

To enhance the general understanding of the contributory sources of metals to OCSD's sewerage system, a sampling program for domestic and some limited commercial sources was completed during 1994, 1997, 2004, and 2009. Another study is currently in progress. The resulting data is used in Table 5.1 for determination of mass discharge from the combination of domestic and industrial/commercial sources.

To improve the detection of illegal discharges by industry, OCSD continues their program of downstream sampling. This program is directed at those industries suspected of illegally dumping non-compatible pollutants or altering their discharges at times when they are not being inspected or sampled by OCSD personnel. Target industries are selected based on the professional judgment of OCSD inspectors or on anonymous tips. For each downstream sampling event, a 24-hour composite sampler and a continuously recording pH meter are placed in a sewer downstream of the target industry (and in an upstream sewer if necessary). Additional information on downstream sampling can be found in Chapter 4.

5.2.1 Cadmium

Cadmium is used in electroplating, pigments, chemicals, and metal alloys. Manufacturers of various products that require surface coatings use cadmium, which can find its way to the sewer system. These products include household appliances (refrigerators, washing machines, vacuums, etc.), automobiles, airplanes, agricultural tools, and industrial machinery. Additionally, hand tools (pliers, wrenches, screwdrivers) and fasteners of all kinds are often cadmium-plated. Cadmium compounds are used in the plastics industry, photography, lithography, process engraving, rubber curing, the manufacturing of medical and dental supplies, in bearings of internal-combustion engines and aircraft, and for soldering and welding. Cadmium is also used in the production of radiators, batteries, the manufacture of superphosphate fertilizers, pesticides, fungicides, and luminescent dials.

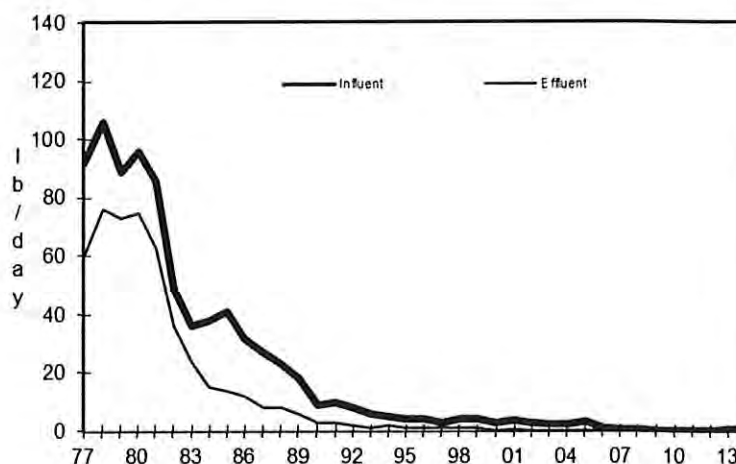


Figure 5-1 Average Yearly Influent and Effluent Cadmium
Orange County Sanitation District

Cadmium is of particular public health concern for biosolids, which are treated and recycled from municipal wastewater treatment plants. If found in excessive amounts in biosolids to be recycled for agricultural use or home garden applications, its ability to concentrate in the edible portion of some crops can lead to possible chronic kidney disease in biota or humans if concentrations are excessive and higher than established regulatory limits.

During FY 2013/14, the influent cadmium mass to OCSD's two treatment plants averaged 1.2 pounds per day (lb/day) as shown in Figure 5.1. Since FY 1976/77, influent cadmium has been reduced by 99%. The effluent cadmium discharge was non-detectable.

5.2.2 Chromium

Chromium is used in steel and its alloys to increase corrosion resistance and durability of metals. The use of chromium in the electroplating/metal finishing industry is widespread within OCSD's service area. Chromium compounds are used in dyeing, manufacturing inks, varnishes, glazes, and as abrasives. Chromates are used as corrosion inhibitors, rust inhibitors, and scale inhibitors in cooling towers, air conditioners, boilers, and some pipelines. Chromates are used in primer paints and

dips for metals, in paper matches, dry-cell batteries, copy machine toner, and fireworks. Chromium compounds are also used as topical antiseptics, astringents, defoliants, and in photographic emulsions.

The total chromium influent mass for FY 2013/14 averaged 12 lb/day. Since FY 1976/77, a 97% reduction in influent chromium has been achieved, as shown in Figure 5.2. The effluent mass discharge averaged 1.1 lb/day.

5.2.3 Copper

Copper is used in the production of wire, brass, electrical apparatus, printed circuit boards, boilers, cooking utensils, automobile radiators, insecticides, fungicides, and fertilizers. Copper is alloyed with tin, lead, zinc, aluminum, nickel, and manganese. Compounds of copper are used in medical and veterinary supplies, pyrotechnics, paints, pigments, catalysts, rayon manufacturing, and fabric printing and dyeing. This past year, the influent copper mass averaged 180 lb/day. Figure 5.3 shows that influent copper has decreased 80% since FY 1976/77. Effluent copper averaged 10 lb/day. This represents a 98% reduction in effluent copper since FY 1976/77.

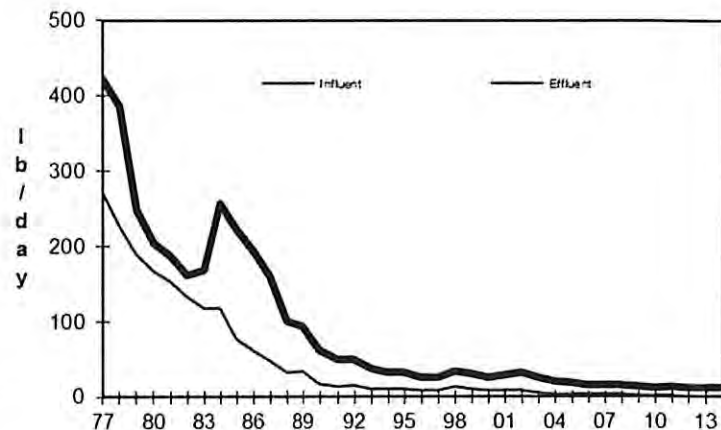


Figure 5-2 Average Yearly Influent and Effluent Chromium
Orange County Sanitation District

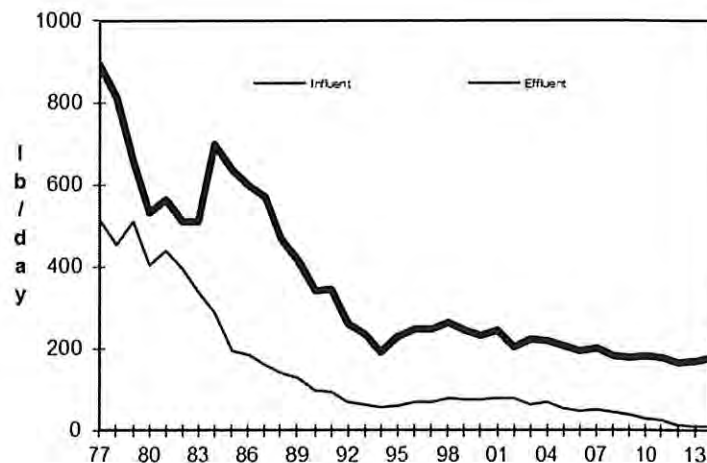


Figure 5-3 Average Yearly Influent and Effluent Copper
Orange County Sanitation District

5.2.4 Lead

Lead is used in alloys, ammunition, construction, rubber production, glass, batteries, gasoline additives, pigments, ducting and insulation material, caulking compounds for plumbing, solder, exterior paints, and in the production of insecticides and circuit boards. Lead compounds are also used in machines, video display terminals, explosives, printing and dyeing fabrics, organic synthesis, photography, and veterinary supplies.

Figure 5.4 shows that since FY 1976/77, the influent lead mass has been reduced by (98%). During FY 2013/14, the influent mass averaged 5 lb/day. The effluent was non-detectable.

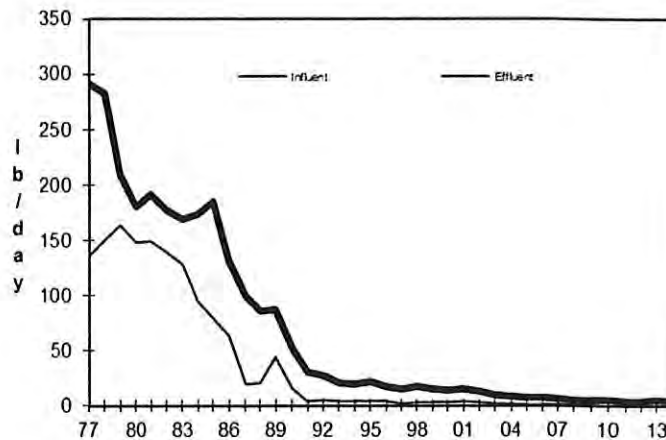


Figure 5-4 Average Yearly Influent and Effluent Lead
Orange County Sanitation District

5.2.5 Nickel

Nickel is used in the production of stainless steel, nickel alloys, batteries, magnets, electrodes, electrical contacts, spark plugs, machinery parts, and in catalysts. Compounds of nickel are used in paint, lacquer, cellulose compounds, detergents, and cosmetics.

Figure 5.5 shows that during FY 2013/14, the influent nickel mass averaged 23 lb/day. The effluent nickel averaged 13 lb/day. Since 1976/77, influent nickel has been reduced 91%.

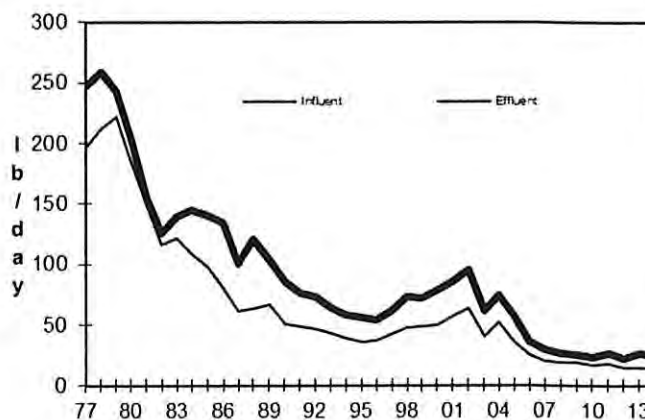


Figure 5-5 Average Yearly Influent and Effluent Nickel
Orange County Sanitation District

5.2.6 Silver

Silver is used in the manufacturing of electronics, jewelry, storage batteries, mirrors, dental and medical supplies, explosives, bearings, and solders. Silver also is used as a catalyst in some industrial operations. It is believed most of silver discharged to OCSD's system is from commercial and home-operated photo processing, printing shops, and x-ray facilities. Non-categorical small volume operations are not presently monitored.

Silver, as shown in Figure 5.6, averaged a total influent loading of 2 lb/day. Silver levels in the effluent are non-detectable.

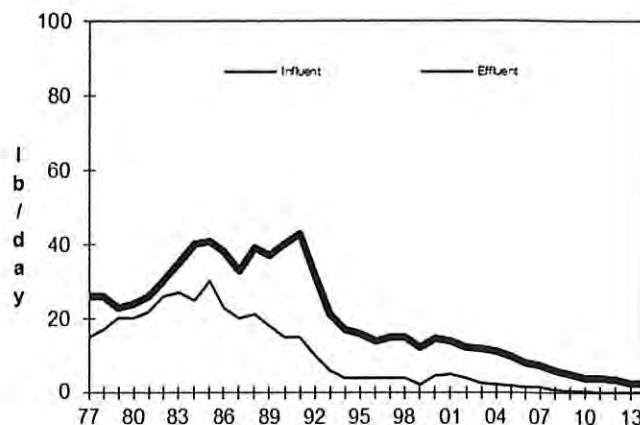


Figure 5-6 Average Yearly Influent and Effluent Silver
Orange County Sanitation District

5.2.7 Zinc

Zinc is used extensively as a protective coating on metals to prevent corrosion, and is used in alloys such as brass and bronze. Galvanized pipes, which contain a large quantity of zinc, were once commonly used in domestic water systems. Zinc and its compounds are also constituents of many household items including cosmetics, pharmaceutical powders and ointments, antiseptics, astringents, insecticides, fungicides, glue, matches, inks, porcelain, paints, varnishes, oil colors, linoleum, and rubber. Industrially, zinc and zinc compounds are used in dyes and electrical apparatus. Zinc is also used in the production of glass, castings, printing plates, building materials, automobile tires, dry-cell batteries, television screens, reducing agents, and parchment paper. Zinc compounds are used in hardeners of cement, weighting textiles, agricultural fertilizers, wood preservatives, and in paper bleaching.

Influent zinc has been reduced from 1,321 lb/day in FY 1976/77 to 278 lb/day as shown in Figure 5.7. The effluent level is at 24 lb/day, a 97% decrease since FY 1976/77.

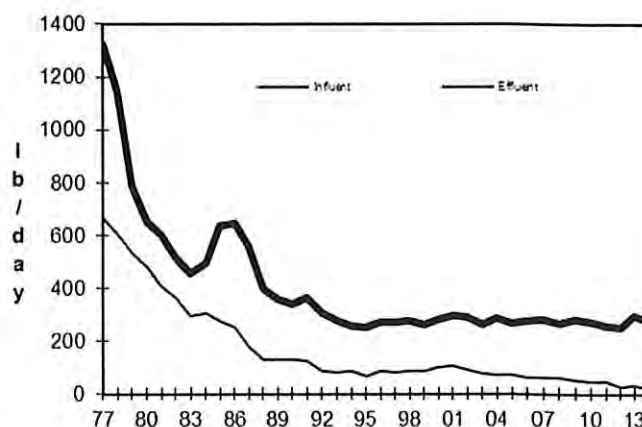


Figure 5-7 Average Yearly Influent and Effluent Zinc
Orange County Sanitation District

5.3 ARSENIC

Arsenic is used in wood preservatives, pigments in certain paints, fireworks, in the textile and tanning industries, and for strengthening alloys such as copper and lead for use in products such as automotive batteries. Compounds of arsenic are used in the production of glass, enamels, ceramics, oil cloth, semiconductors, and photo conductors.

During FY 2013/14, the average influent mass was 6 lb/day. The effluent arsenic averaged 4 lb/day.

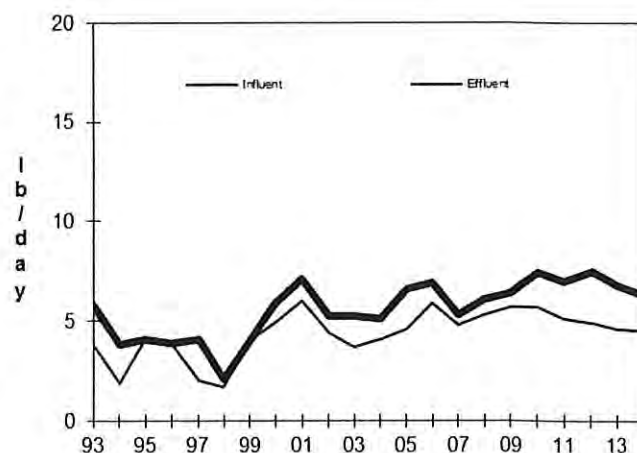


Figure 5-8 Average Yearly Influent and Effluent Arsenic
Orange County Sanitation District

5.4 MERCURY

Mercury is used in thermometers, hydrometers, pyrometers, mercury arc lamps, switches, fluorescent bulbs, button cell batteries, dentistry, cosmetics, pharmaceutical preservatives, and is present in antique barometers and mirrors.

For FY 2013/14, the influent mass loading averaged 0.3 lb/day of mercury. Since 1986/87, the influent has been less than 2.0 lb/day. The effluent discharge was non-detectable.

5.5 CYANIDE

Cyanides are contributed by metal cleaning, electroplating processes, and from chemical industries. For FY 2013/14, the influent mass loading averaged 6 lb/day of cyanide. The effluent discharge averaged 3 lb/day. An exact comparison of the average influent and effluent concentrations during the past five years is difficult to determine because of method detection limit changes and non-detected values during sample analysis.

5.6 ORGANIC PRIORITY POLLUTANTS

The discharge permit for OCSD requires the analysis of the influent, effluent and biosolids for the constituents appearing on the EPA Priority Toxic Pollutant List (excluding asbestos) as shown in Appendix C. For most of the constituents, the frequency of analyses is either monthly or quarterly. The analysis for some constituents is performed more frequently to support other programs within OCSD. Monthly and annual means for these constituents are reported in Appendix B.

The most consistently detected organic priority pollutants in the influent and effluent are some of the volatile organic compounds (VOCs). These are determined by OCSD's Environmental Sciences Laboratory and Ocean Monitoring Division (ELOM) using EPA Method 624.

The majority of the influent and effluent results reported in Appendix B are determined by the ELOM. The analysis of biosolids for organochlorine pesticides (Method 8081), PCBs (Method 8082), organophosphorus pesticides (Method 8141), base/neutral/acid extractable organics (Method 8270), VOCs (Method 8260) and 2,3,7,8 TCDD (Method 1613B) are performed by contract laboratories.

5.6.1 Influent/Effluent Organic Priority Pollutants

Figure 5.9 presents the pounds per day of influent and effluent organic priority pollutants.

For FY 2013/14, the influent mass loading averaged 61 lb/day of organic priority pollutants. Effluent organic priority pollutants averaged 6 lb/day.

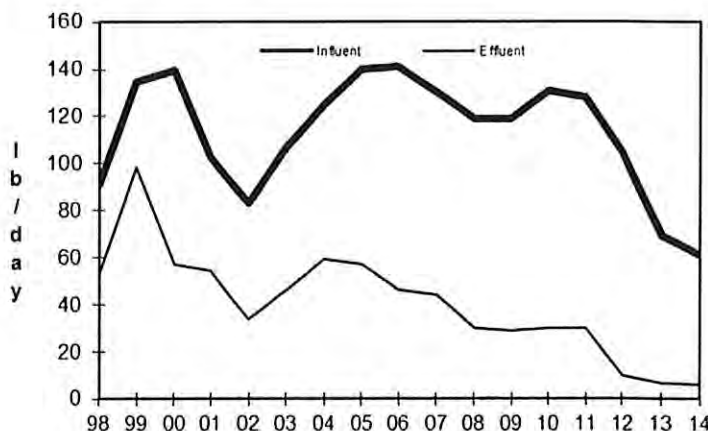


Figure 5-9 Average Yearly Influent/Effluent Organic Priority Pollutants
Orange County Sanitation District

5.6.2 Polychlorinated Biphenyls (PCBs)

Testing for PCB compounds in OCSD's influent and effluent is performed semi-annually (July and January of the FY) on the influent and effluent by a contract lab using EPA Method 608. During FY 2013/2014, PCBs were not detected in OCSD's influent or effluent. Using flow and analytical detection limit data, the PCB compounds discharged in the effluent averaged less than 0.40 lb/day.

Individual PCB congeners were analyzed annually (July) for OCSD effluent pursuant to the NPDES permit by a contract lab using EPA method 1668C. During FY2013/2014, individual PCB congeners were not detected in OCSD's effluent.

5.6.3 Pesticides

Testing for organochlorine pesticides in OCSD's influent and effluent is performed semi-annually (July and January of the FY) on the influent and effluent by a contract lab using EPA Method 608. During FY 2013/2014, none of the organochlorine pesticides were detected in OCSD's influent or effluent. The permit limit for Chlordane, an organochlorine pesticide with a permit limit, is based on the sum of the concentrations of seven different chemicals. Certified analytical standards for two of these chemicals were no longer available after March 2004. The reporting rules for Chlordane and other summed constituents require reporting the sum of all constituents in the group that have available certified standards.

5.6.4 Phenolic Compounds

Testing for chlorinated and non-chlorinated phenols is performed monthly on the influent and effluent samples as part of the routine analysis for base/neutral/acid extractable organics using EPA Method 625. OCSD's permit requires at least monthly testing for these compounds. Total chlorinated phenols were not detected in the influent and the final effluent during FY 2013/2014. Detectable quantities of total non-chlorinated phenols were reported throughout the year in the influent with an annual monthly average concentration of 9.36 µg/L. Total non-chlorinated phenols were not detected in the final effluent during FY 2013/2014.

5.7 RADIOACTIVITY

Testing for gross alpha and beta radioactivity is performed monthly on the influent and effluent by a contract lab using EPA Method 900.0. The average gross alpha and beta radioactivity measured in the combined influent and final effluent during FY 2013/2014 was 17.4 pCi/L and 20.7 pCi/L, respectively.

5.8 OVERALL TRENDS

A review of the data for the long-term shows there has been a steady decline in most constituents as shown by the tables and figures in this chapter. Since 1976/77, when the pretreatment program Ordinance was first adopted, the total influent metals have declined 85% and the total effluent metals have declined 98%. For FY 2013/14, total influent metals compared to last year decreased by 2%. Total effluent metals compared to last year decreased by 16%. This reduction is likely due to the completion of secondary treatment facilities, removing more wastewater solids from the influent. Influent mercury, cyanide, and PCB values have remained essentially the same during the past five years.

PRETREATMENT PROGRAM STAFFING, COSTS, AND FIELD EQUIPMENT

Introduction
Staffing, Revenues, and Costs
Field Equipment

PRETREATMENT PROGRAM STAFFING, COSTS, AND FIELD EQUIPMENT

6.1 INTRODUCTION

This chapter discusses the pretreatment program's staffing levels, program costs, payments to OCSD by permittees and equipment used by the program in pursuit of its activities.

6.2 STAFFING, REVENUES, AND COSTS

6.2.1 Staffing

As of August 23, 2010, due to an OCSD agency-wide reorganization, the pretreatment program is now comprised of both partial Environmental Compliance Division and Collections Division staff. The dedicated pretreatment program staff across both divisions for 2013/14 consists of 2 Managers, 3 Supervisors, 9 Engineers, 5 Professionals, 9 Field Inspectors, 3 Field Technicians, and 7 Administrative Support Personnel for a total of 38 staff members.

6.2.2 Revenues

During FY 2013/14 a total of \$18,073,849 in revenue payments was made to OCSD by Class I, Class II, Wastehauler, Special Purpose and FOG permittees. The following amounts were collected for the discharge of flow, biochemical oxygen demand (BOD), and suspended solids: Operation and Maintenance (O&M) fees \$14,360,441 Supplemental Capacity Facilities Capacity Charge (SCFCC) fees \$2,581,426 and Wastehauler User Fees \$785,295. Permit fees in the amount of \$346,687 and over \$81,000 in noncompliance fees were also collected. Because of the way the OCSD Accounting Department books their fees, the O&M and SCFCC fees represent the prior fiscal year, FY 2012/13.

Collected revenue helped to offset a portion of OCSD's treatment costs and the \$7,283,573 needed for labor, supplies, equipment, and overhead to administer the pretreatment program. These costs were associated with issuing permits, sampling, inspections, and laboratory analyses.

6.2.3 Program Costs

Overall pretreatment program implementation costs (including overtime) during the fiscal year decreased 1.2% over the preceding year and show a 13.9% increase from program costs of five years ago. The cost per labor hour over the past five years has increased 24.8%, which is an average 4.9% per year increase. A comparison of pretreatment program costs for the past five years is shown in Table 6.1.

TABLE 6.1 Summary of Total Costs and Total Labor Hours for the Pretreatment Program, Fiscal Years 2010-2014

Orange County Sanitation District, Environmental Compliance Division

| Fiscal Year | Total Cost | Labor Hours | Cost Per Labor Hour |
|-------------|-------------|-------------|---------------------|
| 2009-10 | \$6,392,989 | 83,476 | \$76.59 |
| 2010-11 | \$6,496,195 | 81,504 | \$79.70 |
| 2011-12 | \$6,625,419 | 75,458 | \$87.80 |
| 2012-13 | \$7,373,448 | 78,001 | \$94.53 |
| 2013-14 | \$7,283,573 | 76,202 | \$95.58 |

6.3 FIELD EQUIPMENT

6.3.1 Equipment Inventory

An inventory of major equipment used by the OCSD inspection staff for the NPDES Source Inspection Division is shown in Table 6.2. Twelve field personnel, each utilizing trucks and modern sampling equipment, maintain a high degree of visibility in the industrial community.

TABLE 6.2 Current Inventory of Major Equipment for the Pretreatment Program, Fiscal Year 2013-14

Orange County Sanitation District, NPDES Source Inspection Division

| Description | Quantity |
|-------------------------------------|----------|
| <u>Vehicles</u> | 14 |
| <u>Equipment</u> | |
| Cellular Phones | 14 |
| Composite Samplers, General Use | 69 |
| Composite Samplers, Special Purpose | 6 |
| Flow Meters, Portable | 8 |
| pH Meters, Portable | 11 |
| Gas Meters | 10 |